

INSECTA MUNDI

A Journal of World Insect Systematics

0401

Revision of the genus *Acyphoderes* Audinet-Serville, 1833, with a brief
synopsis of the genus *Bromiades* Thomson, 1864
(Coleoptera, Cerambycidae)

Robin O. S. Clarke
Hotel Flora & Fauna
Casilla 2097
Santa Cruz de la Sierra, Bolivia

Date of Issue: January 16, 2015

Robin O. S. Clarke

Revision of the genus *Acyphoderes* Audinet-Serville, 1833, with a brief synopsis of the genus *Bromiades* Thomson, 1864 (Coleoptera, Cerambycidae)

Insecta Mundi 0401: 1-92

ZooBank Registered: urn:lsid:zoobank.org:pub:1E971D20-D232-4729-9249-BE529F677862

Published in 2015 by

Center for Systematic Entomology, Inc.

P. O. Box 141874

Gainesville, FL 32614-1874 USA

<http://www.centerforsystematicentomology.org/>

Insecta Mundi is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. **Insecta Mundi** will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. **Insecta Mundi** publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

Insecta Mundi is referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc. **Insecta Mundi** is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology. Manuscript preparation guidelines are available at the CSE website.

Chief Editor: Paul E. Skelley, e-mail: insectamundi@gmail.com

Head Layout Editor: Eugenio H. Nearn

Editorial Board: J. H. Frank, M. J. Paulsen, Michael C. Thomas

Review Editors: Listed on the *Insecta Mundi* webpage

Manuscript Preparation Guidelines and Submission Requirements available on the *Insecta Mundi* web-page at: <http://centerforsystematicentomology.org/insectamundi/>

Printed copies (ISSN 0749-6737) annually deposited in libraries:

CSIRO, Canberra, ACT, Australia

Museu de Zoologia, São Paulo, Brazil

Agriculture and Agrifood Canada, Ottawa, ON, Canada

The Natural History Museum, London, Great Britain

Muzeum i Instytut Zoologii PAN, Warsaw, Poland

National Taiwan University, Taipei, Taiwan

California Academy of Sciences, San Francisco, CA, USA

Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA

Field Museum of Natural History, Chicago, IL, USA

National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia

Electronic copies (On-Line ISSN 1942-1354, CDROM ISSN 1942-1362) in PDF format:

Printed CD or DVD mailed to all members at end of year. Archived digitally by Portico.

Florida Virtual Campus: <http://purl.fcla.edu/fcla/insectamundi>

University of Nebraska-Lincoln, Digital Commons: <http://digitalcommons.unl.edu/insectamundi/>

Goethe-Universität, Frankfurt am Main: <http://nbn-resolving.de/urn/resolver.pl?urn:nbn:de:hebis:30:3-135240>

Copyright held by the author(s). This is an open access article distributed under the terms of the Creative Commons, Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. <http://creativecommons.org/licenses/by-nc/3.0/>

Layout Editor for this article: Michael C. Thomas

Revision of the genus *Acyphoderes* Audinet-Serville, 1833, with a brief synopsis of the genus *Bromiades* Thomson, 1864 (Coleoptera, Cerambycidae)

Robin O. S. Clarke
Hotel Flora & Fauna
Casilla 2097
Santa Cruz de la Sierra, Bolivia
hotelfandf@hotmail.com

Abstract. A revision of the genus *Acyphoderes* Audinet-Serville, 1833 (Coleoptera: Cerambycidae), with a brief synopsis of the genus *Bromiades* Thomson, 1864, is presented. *Acyphoderes* to comprise eight South American species, *Acyphoderes aurulenta* (Kirby, 1818), *A. abdominalis* (Olivier, 1795), *A. auricapilla* Fisher, 1947, *A. crinita* (Klug, 1825), *A. hirtipes* (Klug, 1825), *A. rubrohirsutotibialis* Tippmann, 1953, *A. carinicollis* Bates, 1873 and *A. amoroensis* Clarke 2013; and *Acyphoderes* is divided into three informal species groups. A new genus, *Ameriphoderes*, is proposed for eleven Mexican and Central American species, *Ameriphoderes acutipennis* (Thomson, 1860), *A. amoena* (Chemsak and Linsley, 1979), *A. ayalai* (Chemsak and Linsley, 1988), *A. bayanicus* (Giesbert, 1991), *A. cribricollis* (Bates, 1892), *A. magna* (Giesbert, 1991), *A. parva* (Chemsak and Linsley, 1979), *A. proluxa* (Chemsak and Linsley, 1979), *A. suavis* (Bates, 1885), *A. velutina* (Bates, 1885) and *A. yucateca* (Bates, 1892); and *Ameriphoderes* is divided into two informal species groups. *Acyphoderes delicata* Horn, 1894 is placed in its own genus, *Amerispheca*. Other new genera are proposed for the following; *Acyderophes* for *Acyphoderes fulgida* Chemsak and Linsley, 1979; *Brachyphoderes* for *Acyphoderes dehiscens* Chemsak, 1997 and *A. longicollis* Chemsak and Noguera, 1993; *Acutiphoderes* for *Acyphoderes odyneroides* White, 1855; and *Anomaloderes* for *Acyphoderes itaiuba* Martins and Galileo, 2004. *Acyphoderes sexualis* Bates, 1885 and *Sphecomorpha forficulifera* (Gounelle, 1913) are moved to the new genus *Forficuladeres*. *Acyphoderes synoecae* Chemsak and Noguera, 1997 from Mexico is treated as a junior synonym of *Sphecomorpha vespiventris* (Bates, 1880) from Guatemala. *Acyphoderes cracentis* Chemsak and Noguera, 1997 from Mexico, and *Acyphoderes violaceus* Bezark, Santos-Silva and Martins, 2012 from Costa Rica are placed in the new genus *Odontogracilis*, together with two species, *Odontocera exilis* Fisher, 1947 from Mesoamerica and *Odontocera gracilis* (Klug, 1825) from Brazil. Identification keys are provided for the genera, species groups (and the species in each one). All species are illustrated (both male and female when available). Plates illustrating the following are also provided; types of abdomen, hind leg, and aedeagus (tegmen and median lobe). Host-flower records are provided for many species.

Keywords. Host-flowers, identification keys, Rhinotragini, taxonomic revision.

Introduction

This paper presents a revision of the genus *Acyphoderes* Audinet-Serville, 1833, using the structure of the aedeagus (tegmen and median lobes) as a primary diagnostic tool, as well as other primary characters used by past and present authors. It also includes a brief synopsis of the genus *Bromiades* Thomson, 1864, since the single species representing this genus shares its type of aedeagus with species of *Acyphoderes*, and its principal external characters only differ significantly from the type species, *Acyphoderes aurulenta* (Kirby, 1818), by its short elytra. Due to insufficient specimens some probable new species and synonymies have been left as suggestions for future investigation.

The Rhinotragini Thomson, 1860 is a moderately large tribe, all, or nearly all, of whose members visit flowers. They are generally graceful insects, maybe due to evolutionary forces that have required loss of body weight as a prerequisite to nimble flight, an important ability for relatively small beetles visiting flowers, especially under windy conditions. Loss of weight is evidenced by reductions in the size of the abdomen, paring down of the elytra (both in extent and thickness), and in many the move towards slender legs and shorter antennae. Theoretically, these changes might have preceded their gradual transition towards mimicry.

The Rhinotragini are mimetic (species of *Acyphoderes* mimic one sort of wasp or another, with their characteristic abdomens) and, depending on their model, have been subject to strong selective pressure leading to radical changes of anatomy and external ornamentation, to produce a tribe of species of widely diverse appearance. These morphological changes have not only produced species that look like their

models (both in shape and color), but also behave like their models (flight patterns and, as their models are often predatory insects, pseudo-aggressive behavior), visual signals that presumably confer on them some protection from would-be predators and, maybe, advantages during mating.

Monné and Hovore (2006) list 27 species of *Acyphoderes*, distributed between the southern USA (Texas) and Argentina; 18 Mesoamerican species, and 9 South American species from Colombia-Argentina. Records for two species, *A. abdominalis* (Olivier, 1995) from Nicaragua-Bolivia, and *A. aurulenta* from Puerto Rico, Brazil and Argentina, require more than the brief assessment which follows.

The Puerto Rico record for *A. aurulenta* cannot be set aside, as first suggested by Zajciw (1972), as the author has examined two specimens (USNM), collected on Mango blossoms by A.G. Harley, at the coastal city of Mayagüez in 1933 (confirming the statement by Fisher (1930) that “The specimens listed as *abdominalis* from Porto Rico by Gahan and Leng and Mutchler are probably *aurulenta* ...”).

The Mesoamerican records for *A. abdominalis* are not abundant; Chemsak (1969) does not record it for Cuba; Chemsak et al. (1992) record the species for Mexico-Mesoamerica (possibly based on a Panamanian record, and the author has examined a female specimen from there); and Maes et al. (1994) record it for Nicaragua; but the author has failed to find the source for this record, which suggests it is based on the general list referred to above.

Sale (1990) states, “By 1638 ... the Spanish ... had thriving colonies on Española, Cuba, Jamaica and Puerto Rico”; and during the decades to come the extraction of timber from South America became a major industry. As it seems likely that the Mesoamerican records for *A. abdominalis*, and the Puerto Rican record for *A. aurulenta*, represent species imported in lumber, they are not included in the discussion of the geographical distribution of *Acyphoderes* species.

Altitudinal records are often omitted from specimen labels and publications; those cited here come from specimens seen by the author. They vary from sea-level in Panama (Barro Colorado Island) to submontane areas of Mexico (Colima 1800 m) and Bolivia (Floripondio 1914 m).

Host-plant records provided by Tavakilian et al. (1997) and Monné (2001) show that we know very little about the life cycles of these insects; but host-flower records are more abundant, and summarized in Appendix VI. Examination of museum specimens for the presence of pollen suggests that all species of *Acyphoderes* and *Bromiades* are antherophilous.

Historical

Olivier (1795) described *Necydalis abdominalis* from Cayenne [French Guiana]; the species eventually transferred to *Acyphoderes* by White (1855).

Kirby (1818) described *Necydalis aurulenta* as follows [author’s translation from the original Latin]. Body with golden-fulvous pubescence. Inferior lobes of eyes separated by narrow frontal suture, the latter passing between paired carinas towards antennal tubercles. Antennae longer than [author, passing?] prothorax [author, they don’t pass], black, incrementally incrassate and serrate towards apex. Prothorax subglobose; depressed; with golden and dark ferruginous pubescence [author, Kirby says “nebulous”, which is true, as the color of the pubescence changes from one color to the other depending upon the lighting]; constricted posteriorly; dorsally with three separate, elevated calli [author, one at midline], the lateral pair arcuate, smooth and glabrous anteriorly, deeply punctate posteriorly. Elytra subulate; slightly shorter than body [author, forebody]; fulvous and punctate; base with black, forked fascia, scutellum black. Legs rufescent; femora and tibiae partly blackish; pro- and mesofemora tumid, metafemora clavate; apex of metatibia densely hirsute. Abdomen rufous with golden pubescence.

Klug (1825) described new species from Brazil; *Stenopterus crinitus*, transferred to *Acyphoderes* by Audinet-Serville (1833); *Stenopterus hirtipes* and *Stenopterus femoratus*, both transferred to *Acyphoderes* by White (1855); the latter synonymized by Zajciw (1972).

Audinet-Serville (1833) described the genus *Odontocera* (for four species transferred from *Stenopterus* Illiger, 1804) with the following diagnosis [author’s translation from the original French]. Elytra as long as wings [author, or maybe, “long enough to cover wings”], subulate, abruptly narrowed towards middle; prothorax without tubercle laterally; femoral clavae globose; antennae filiform, more or less setose, moderately long, 11-segmented, from segments 5 or 6 thickened, widened and serrate; palps rather long, projecting, subequal; eyes large, rather convex, each lobe close together below the antennae; head prolonged anteriorly, rostrate; mandibles straight and elongated; scutellum small; pro- and mesotarsi hav-

ing the first three segments short and triangular, the fourth almost as long as the rest together; metatarsi larger than the others, the first segment cylindrical, and longer than the following two together. He then divided *Odontocera* into two Divisions; the first with cylindrical thorax; the second one, which he states might form a separate genus, to be called *Acyphoderes* [author, “without convex thorax”]. He diagnosed this second division as follows [author’s translation from the original French]. Prothorax depressed and slightly widened posteriorly; surface of pronotum uneven; hind legs, towards sides, with dense brush of hairs from middle to apex. Two species, *Odontocera aurulenta* and *O. crinita*, were included in this second division.

Newman (1840) designated *Necydalis aurulenta* Kirby, 1818 as the Type-species for the genus *Acyphoderes*, one of many genera he proposed for inclusion in his Family Necydalidae.

White (1855) described *Acyphoderes odyneroides* from Brazil (Amazonas); and *Acyphoderes sericinus*, later treated as a junior synonym of *A. aurulenta* by Bates (1873).

Thomson (1860) placed *Acyphoderes* in his 11th division, Rhopalophoritae; dividing the genus into two subdivisions. The first subdivision was diagnosed by head broad, eyes smaller and separated, antennae strongly pectinate, prothorax broad, above depressed and subrotundate; and represented by *A. abdominalis*. The second subdivision was diagnosed by head elongate, eyes larger and more or less approximate, antennae less pectinate, prothorax elongate and hardly depressed; and represented by *A. femoratus* Klug, 1825, later treated as junior synonym of *A. hirtipes* by Zajciw (1972), and *A. acutipennis* (a new Mexican species described by him in his paper). Thomson (1864) returned *Acyphoderes* to the Rhinotragitae.

Pascoe (1862) described *Acyphoderes brachialis*; first treated as a junior synonym of *Acyphoderes femoratus* by Bates (1873), which itself, was treated as a junior synonym of *Acyphoderes hirtipes* by Zajciw (1972).

Lacordaire (1869) divided the Rhinotragides into two groups. The second group diagnosed by metasternum very large; male abdomen cylindrical or petiolate at base (not sessile), in others oblong-oval (subsessile). The group to include *Odontocera* (diagnosed by elytra entire, or almost so (not subulate), not or only slightly dehiscent posteriorly), and *Acyphoderes* (diagnosed by elytra reaching middle of abdomen, strongly subulate, extensively dehiscent posteriorly), and several other genera (including *Bromiades*) with much shorter elytra.

Bates (1870) described *Acyphoderes olivieri*, with the comment that his species might be the same as *Acyphoderes abdominalis* (and later Bates (1873) synonymized it by himself). Bates (1873) described *Acyphoderes carinicornis* and *Acyphoderes moestus*, the latter treated as a junior synonym of *Acyphoderes crinita* (Klug, 1825) by Gounelle (1913); and treated *Acyphoderes brachialis* Pascoe, 1862 as a junior synonym of *Acyphoderes femoratus*. He also states that Audinet-Serville’s diagnosis (“broadly ovate, depressed, uneven thorax”) for *Acyphoderes* was inconsistent with those species in which the thorax is “oblong-ovate and convex”; and adds “a more constant feature is the rather abruptly subulate elytra”, and “the antennae in all species are robust and strongly serrated”. He also negates the use of dorsal ridges on the prothorax as a generic diagnostic, by dividing *Acyphoderes* into two groups according to their presence or absence. Bates (1880) described *Acyphoderes vespiventris* (which Monné and Giesbert (1992) transferred to *Sphecomorpha* Newman, 1838), and adds to the species’ description the following perspicacious observation, “in many respects agreeing with the genus *Sphecomorpha*; but the femora, being abruptly instead of gradually clavate, point to a nearer relationship with *Acyphoderes*, from which it differs in the convex thorax”; sentiments heartily supported by, and exploited by, the author of this revision. Bates (1885) described *Acyphoderes suavis* from Mexico and *Acyphoderes velutina* from Guatemala. Bates (1892) described two Mexican species, *Acyphoderes yucateca* and *Acyphoderes cribricollis*. Unfortunately, with respect to the latter, he then adds “the species by the longitudinal elevations of the thoracic disk, belongs to the genus *Acyphoderes*”, rather blotting his copy book in the authors’ opinion.

Horn (1894) described *Acyphoderes delicata* from Baja California, an interesting area, isolated from the Mexican mainland by the Gulf of California and the River Colorado which flows into it.

Gounelle (1911) described *Acyphoderes carinicornis* var. *nigricans* from Brazil (Goiás). Gounelle (1913) described two new species, *Acyphoderes forficulifera*; and with some hesitation regarding the correct genus, *Acyphoderes baeri*; and in a footnote he treats *Acyphoderes moestus* Bates, 1873 as a junior synonym of *Acyphoderes crinita* (Klug, 1825).

Linsley (1934) described two new species, *Acyphoderes sexualis*, and *Acyphoderes propinquus*; the latter synonymized with *Sphecomorpha forficulifera* by Monné and Giesbert (1992).

Fisher (1930) described *Acyphoderes rufofemorata* from Brazil (Bahia) and (1947) *Acyphoderes auricapilla* from Paraguay.

Tippmann (1953) described *Acyphoderes rubrohirsutotibialis*, and *Acyphoderes azureopallescens*.

Zajciw (1972) revised the Brazilian species of *Acyphoderes*, reducing the number of species from eleven to seven, with one transference, *Acyphoderes baeri* to the genus *Odontocera*; and three new synonymies, *Acyphoderes azureopallescens* = *Acyphoderes auricapilla*; *Acyphoderes femoratus* = *Acyphoderes hirtipes*; *Acyphoderes rufofemorata* = *Acyphoderes hirtipes*.

The Mesoamerican Rhinotragini were intensively studied between 1979-1997 by US entomologists; with the addition of many new species of *Acyphoderes*, one new combination, and reviews and redescriptions of many known species in the following papers. Chemsak and Linsley (1979) *Acyphoderes amoena*, *Acyphoderes fulgida*, *Acyphoderes prolixa*, *Acyphoderes parva*, *Acyphoderes yucateca* (transferred from *Odontocera*), all from Mexico; Chemsak and Linsley (1988) *Acyphoderes ayalai* from Mexico; Chemsak and Noguera (1993) *Acyphoderes longicollis* from Mexico; Chemsak and Noguera (1997) *Acyphoderes cracentis* and *Acyphoderes synoecae* from Mexico; Chemsak (1997) *Acyphoderes dehiscens* from El Salvador; Giesbert (1991) *Acyphoderes magna* from Mexico, and *Acyphoderes bayanicus* from Panama and Costa Rica.

Monné and Giesbert (1992) transferred *Acyphoderes forficulifera* (Gounelle, 1913) and *Acyphoderes propinquus* Linsley, 1934 to the genus *Sphecomorpha* (the latter species treated as a junior synonym of the former one by these authors); but, surprisingly, left *Acyphoderes sexualis* in its genus, which, as noted by Linsley (1934), closely resembles *A. forficulifera*.

Martins and Galileo (2004) described *Acyphoderes itaiuba* from Venezuela; here transferred by the author to the new genus *Anomaloderes*.

Santos-Silva et al. (2012) described *Acyphoderes violaceus* from Costa Rica; adding that “the species without doubt is not a true *Acyphoderes*”; and here transferred to a new genus, *Odontogracilis*, more closely related to the odontocerines than the acyphoderines, and therefore treated as an out-group genus in this revision.

Clarke (2013) described *Acyphoderes amboroensis* in a paper dedicated to higher altitude Rhinotragini in Bolivia.

Diagnoses proposed for the genus *Acyphoderes* by modern authors have settled on the presence of calli on the pronotum, and whether or not the pronotum is depressed; with additional characters based on the form of antennae, elytra, and legs, as follows.

Chemsak and Linsley (1979): “pronotal calli present; antennae distally serrate and usually extend to middle of elytra; elytra subulate or elongate, narrowed posteriorly and extend to the abdomen; pro- and mesofemora usually strongly clavate; males usually with urosternite V modified. The primary characteristics of [*Odontocera* in] Mexico are the vitreous disc of the elytra ...and usually [less] strongly clavate femora.”

Monné and Magno (1988): “pronotum dorso-ventrally flattened, generally with three prominent, longitudinal carinas (ridges); metatibia usually with dense hairs covering apical third to half. *Odontocera* differs by its cylindrical prothorax, without distinct carinas (sometimes with indistinct, longitudinal calli); and metatibia usually without dense hairs.”

But the problem of definitive diagnoses to separate *Acyphoderes* from *Odontocera* was not resolved by the tentative nature of these two examples; not only for reasons of strong polymorphism within these genera, but also because of the incomparable nature of their research specimens; the first weighted towards the Mesoamerican fauna, the second the South American; which, as the author will show (notwithstanding the usual exceptions), may be separated by the form of their genitalia (lateral and median lobes of aedeagus) as a primary character, as well as a number of others which, in combination, seem to provide a workable classification. Nevertheless, the revision presented here cannot be considered complete, nor the diagnosis for the genus *Acyphoderes* definitive, until such time as the genera *Sphecomorpha* and *Odontocera* have been completely revised.

Materials and Methods

This revision would not have been possible without the unstinted cooperation of a number of colleagues (see Acknowledgements) in North American and South American museums who arranged generous loans (and permission to extract genitalia), enabling the author to study the males of all the known species, and the females of most of them (in many cases including paratypes; but, understandably, requests to study holotypes was not made, nor would have been forthcoming). Nevertheless, the South American species are well documented (albeit nearly all of them described during the years 1795-1873), and moderately easy to identify; and the Central American/Mexican species with accurate, well illustrated, and easily understood original descriptions (together with photographs of type material available on the internet), have permitted a satisfactory level of precision needed for this revision. For the latter the author is much indebted to the works of Chemsak, Noguera, Linsley, Giesbert, Hovore, Zajciw, Martins and Galileo; and Bezark for his cerambycid web site.

Museum loans were augmented by specimens collected by the author in Bolivia; mainly in the Department of Santa Cruz, near Buena Vista (17°30'S/63°39'W); and the Department of Tarija, at several localities centered on Villamontes (21°17'S/63°28'W) as far as Bolivia's southern border with Argentina.

Specimens seen by the author have been divided into two groups. **Material analyzed** refers to those specimens (one of each sex when both available) which have been used for the data set down in the descriptions of the genera, and in the identification keys. **Material examined** refers to those specimens that have been examined for intraspecific and sexual variation; mostly differences of color and surface ornamentation, but also data contributing to the general measurements given for each species.

It should be remembered that intraspecific variation may vary with smaller or larger specimens.

Measurements (were made using a cross-piece micrometer disc, 5mm x 0.1mm). Total length = tip of mandibles to apex of abdomen. Forebody length (estimated with head straight, not deflexed) = apex of gena to middle of posterior margin of metasternum. Length of abdomen = base of urosternite I (apex of abdominal process) to apex of urosternite V. Length of rostrum = genal length (from apex of side to where it meets inferior lobe of eye). Length of inferior lobe of eye (viewed from above with the scale along side of gena), from the lobes most forward position to its hind margin (adjacent to, and slightly to the side of, antennal insertion). Width of inferior lobe of eye (with head horizontal and level viewed from directly above) = width of head with eyes at its widest point, minus width of interocular space, and divided by two. Interocular space between inferior lobes = its width at the narrowest point (including smooth lateral margins). References to antennal length in relation to body parts are made, as far as is possible, with head planar to dorsad and antenna straightened. Length of leg (does not include coxae) = length of femur (from base of femoral peduncle to apex of claw) + length of tibia + length of tarsus (does not include claws).

Details of some measurements not referred to above may be found in Appendix I.

The preparation of specimens for photographic purposes of both dorsal and ventral aspects involved the use of "Fantastic" for meticulous cleaning and, in most cases, relaxation and repositioning of appendages.

The terminology used to describe the genitalia follow those used by Sharp and Muir (1912, reprint edition 1969). Aedeagus = the median lobe and tegmen together; tegmen = the term applied to the lateral lobes and basal piece together; median lobe = the central portion of the aedeagus upon which the median orifice is situated.

Extraction of the genitalia required the following steps; severance of the apical urosternites (these lightly boiled in 10% sodium hydroxide for a few minutes); then, under water, gently pulling out the aedeagus by way of the severed urosternite, teasing away the unwanted muscular tissue and connecting membranes, and separating the lateral lobes from the median lobe; and, after taking photographs (also under water), placement of these in microvials for dry storage below the pinned specimen; and finally, returning the severed urosternites to the insect specimen (using nail varnish).

The acronyms used in the text are as follows. American Coleoptera Museum, San Antonio, Texas, USA (ACMT); Carnegie Museum of Natural History (CMNH); Essig Museum of Entomology, Berkeley, California, USA (EMEC); Museo Noel Kempff Mercado, Universidad Autónoma Gabriel René Moreno, Santa Cruz de la Sierra, Bolivia (MNKM); Museu de Zoologia, Universidade de São Paulo, São Paulo,

Brazil (MZUSP); Robin Clarke/Sonia Zamalloa private collection, Hotel Flora & Fauna, Buena Vista, Santa Cruz, Bolivia (RCSZ). Utah State University Collection, Logan, Utah, USA (USUL).

The bibliographic references for each taxon correspond to the original descriptions as cited in the catalogue by Monné (2005).

Taxonomy

The author's provisional diagnosis of the pre-revisional genus *Acyphoderes* (excluding *A. cracentis*, moved to the new out-group genus, *Odontogracilis*) is as follows.

Procoxal cavity rounded and closed behind in *Acyphoderes*; procoxal cavities open behind in the following genera (after Martins and Santos-Silva 2010), *Acorethra* Bates, 1873; *Apostropha* Bates, 1873; *Catorthontus* Waterhouse, 1880; *Corallancyla* Tippmann, 1960; *Cylindrommata* Tippmann, 1960; *Epimelitta* Bates, 1870 (author, those species with procoxal cavities angled at sides, or closed behind, to be removed from this genus); *Mimommata* Peñaherera-Leiva and Tavakilian, 2003; *Neophygopoda* Melzer, 1933; *Oxylymma* Pascoe, 1859; *Pseudisthmiade* Tavakilian and Peñaherera-Leiva, 2005; *Stenochariergus* Giesbert and Hovore, 1989; *Sulcommata* Peñaherera-Leiva and Tavakilian, 2003; *Thouvenotiana* Peñaherera-Leiva and Tavakilian, 2003; and *Xenocrasoides* Tavakilian and Peñaherera-Leiva, 2003; and the following genera with procoxal cavity angled and slightly open at sides, *Pseudophygopoda* Tavakilian and Peñaherera-Leiva, 2007; *Stenopseustes* Bates, 1873; and some species of *Xenocrasis* Bates, 1873.

Size moderately large to large, 14-27 mm (but usually more than 16 mm) in *Acyphoderes*; small to moderately small (less than 12 mm) in those genera not eliminated above. *Acatina* Santos-Silva, Martins and Clarke, 2010; *Agaone* Pascoe, 1859; *Anomalotragus* Clarke, 2010; *Antennommata* Clarke, 2010; *Cantharoxylymna* Linsley, 1934; *Caprichasia* Clarke, 2013; *Carenoptomerus* Tavakilian and Peñaherera-Leiva, 2003; *Chariergodes* Zajciw, 1963; *Chrysommata* Tavakilian and Peñaherera-Leiva, 2005; *Cleptoides* Clarke, 2009; most species of *Eclipta* Bates, 1873; *Ecliptoides* Tavakilian and Peñaherera-Leiva, 2005; *Ecliptophanes* Melzer, 1934; *Etimasu* Santos-Silva, Martins and Clarke, 2010; *Grupiara* Santos-Silva and Martins, 2010; *Ischasia* Thomson, 1864; *Ischasiodes* Tavakilian and Peñaherera-Leiva, 2005; *Lygrocharis* Melzer, 1927; *Ommata* White, 1855; *Oxyommata* Zajciw, 1970; *Paraeclipta* Clarke, 2011; *Parischasia* Tavakilian and Peñaherera-Leiva, 2005; *Pasiphyle* Thomson, 1864; *Phespia* Bates, 1873; *Phygopoda* Thomson, 1864 (the larger species will be moved to new genera); *Phygopoides* Peñaherera-Leiva and Tavakilian, 2003; *Pyrpotyra* Santos-Silva, Martins and Clarke, 2010; *Rhopalessa* Bates, 1873; *Stultutragus* Clarke, 2010; *Tomopterchasia* Clarke, 2013; and most species of *Tomopterus* Audinet-Serville, 1833.

Diagnoses for other genera with larger species (13 mm or more) are given below.

Elytra subulate in most species of *Acyphoderes*, reaching from base of urosternite II to middle of IV (in *Monneus* Magno, 2001 and *Crossomeles* Chemsak and Noguera, 1993 not passing apex of urosternite I); elytra entire or nearly so (often flared towards apex, and may gape, but not truly dehiscent) in the following genera, *Aechmutes* Bates, 1867; *Chrysaethe* Bates, 1873; *Erythroplatys* White, 1855; *Laedorcari* Santos-Silva, Clarke and Martins, 2010; *Neoregostoma* Monné and Giesbert, 1992; *Oregostoma* Audinet-Serville, 1833; *Ornistomus* Thomson, 1864; *Pandrosus* Bates, 1870; and *Rhinotragus* Germar, 1824.

Elytra strongly and widely fissate; reaching basal third of urosternite II in *Forficuladeres* gen. nov. (in *Tomopteropsis* Peñaherera-Leiva and Tavakilian, 2003 not passing metacoxae, in *Pseudagaone* Tippmann, 1960 reaching urosternite V).

Elytra short and cuneate; in *Brachyphoderes* reaching from apex of urosternite I to base of II (in *Optomerus* Giesbert, 1996 not passing apex of metasternum, in *Tomopterus* not passing metacoxae, in *Ischasia pouteriae* Peñaherrera-Leiva and Tavakilian, 2004 just passing metacoxae, in *Bromiades* not passing middle of urosternite I).

In *Acyphoderes* apex of antennae usually falling well short of elytral apex; reaching from apex of metasternum to apex of urosternite II (in *Isthmiade* antennae reaching apex of elytra (or beyond), reaching from base of urosternite II to apex of III).

Diagnoses for *Acyphoderes* and *Odontocera* are compromised by the polymorphic nature of both genera; the latter is being revised by the author, and provisional results (based on the male genitalia) indicate it will receive much the same dismemberment as presented here for *Acyphoderes*. The following diagnoses are likely to be of use. Species of *Acyphoderes* are larger, their total length usually more than 16 mm (in species of *Odontocera* their total length does not exceed 17 mm, including larger species likely

to be removed from the genus); in *Acyphoderes* sides of pronotum variable, rounded from apical to basal constriction, or sinuate (in *Odontocera* most species with sinuate sides of pronotum are likely to be removed from the genus); in *Acyphoderes* pronotum with crescent-shaped pair of calli to either side of midline (in *Odontocera* most species with callose pronota are likely to be removed from the genus); in *Acyphoderes* elytral humeri do not hide mesepimera, except in *Anomaloderes* gen. nov. and *Amerispheca* gen. nov. (in *Odontocera* humeri hide mesepimera); in *Acyphoderes* metatibia with or without brush (in *Odontocera* without brush, except for a few species to be removed from the genus); in male *Acyphoderes* metatarsus longer, much longer, than protibia, but subequal in *A. aurulenta* and *Forficuladeres*, shorter in *A. abdominalis*, *Acyderophes* gen. nov., *Anomaloderes*, *Ameriphoderes parva*, and *A. yucateca* (in *Odontocera* metatarsus and protibia subequal in length).

Precise diagnoses for *Acyphoderes* and *Sphecomorpha* will require a revision of the latter, which, itself, will depend upon an examination of the aedeagi of its species. For the few males available to the author the aedeagi indicate, yet again, that *Sphecomorpha* is a polymorphic genus, offering the taxonomists little relief from their search to match the morphology of the insect's body to that of the genitalia. However, a provisional diagnosis based on females (without *Sphecomorpha vespiventris* (Bates, 1880) which should be removed from the genus) could be as follows. In *Acyphoderes* pronotum rarely strongly transverse, sometimes quadrate, usually elongate, depressed to convex, and usually distinctly callose (in *Sphecomorpha* pronotum quadrate to strongly transverse, never depressed, moderately to very strongly convex, and without, or only with weakly raised calli); in *Acyphoderes* elytral divergence is atypical, but when present only moderately strong; and each elytron, if narrow and almost parallel-sided, only so for apical half or less (in *Sphecomorpha* elytra strongly divergent; and each elytron narrow and almost parallel-sided for apical two-thirds); in *Acyphoderes* mesofemur 1.18-1.42 longer than mesotibia (in *Sphecomorpha* mesofemur 1.02-1.07 longer).

The author proposes the genus *Acyphoderes* comprises only eight South America species, divided into three species groups as follows.

Group 1. *Acyphoderes abdominalis* and *Acyphoderes aurulenta*.

Group 2. *Acyphoderes auricapilla*, *Acyphoderes crinita*, *Acyphoderes hirtipes* and *Acyphoderes rubrohirsutotibialis*.

Group 3. *Acyphoderes amoroensis*, and *Acyphoderes carinicollis*.

New monotypic genera are proposed for two South American species, *Acutiphoderes* for *Acyphoderes odyneroides*; and *Anomaloderes* for *Acyphoderes itaiuba*.

A new genus, *Ameriphoderes*, is proposed for eleven Mesoamerican species which fit the diagnostic given for this genus (albeit two species, *A. amoena* and *A. suavis*, present some incompatibility); and propose two species groups as follows.

Group 1 (new combinations). *Ameriphoderes acutipennis* (Thomson, 1860), *Ameriphoderes ayalai* (Chemsak and Linsley, 1988), *Ameriphoderes parva* (Chemsak and Linsley, 1979), *Ameriphoderes velutina* (Bates, 1885), *Ameriphoderes yucateca* (Bates, 1892), *Ameriphoderes suavis* (Bates, 1885).

Group 2 (new combinations). *Ameriphoderes amoena* (Chemsak and Linsley, 1979), *Ameriphoderes bayanicus* (Giesbert, 1991), *Ameriphoderes cribricollis* (Bates, 1892), *Ameriphoderes magna* (Giesbert, 1991), and *Ameriphoderes prolixa* (Chemsak and Linsley, 1979).

Other new genera are proposed for the following: *Amerispheca* for *Acyphoderes delicata*; *Acyderophes* for *Acyphoderes fulgida* (which, as the author suggests, may represent more than one species); *Brachyphoderes* for *Acyphoderes dehiscens* and *Acyphoderes longicollis*; and *Forficuladeres* for *Acyphoderes sexualis* and *Sphecomorpha forficulifera*.

Acyphoderes synoecae Chemsak and Noguera, 1997 is treated as a junior synonym of *Sphecomorpha vespiventris* (Bates, 1880).

Acyphoderes cracentis and *Acyphoderes violaceus* are placed in a new genus, *Odontogracilis*, together with two species transferred from *Odontocera* (*Odontocera exilis* Fisher, 1947 from Mesoamerica, and *Odontocera gracilis* (Klug, 1825) from Brazil).

The list of species summarized below (adapted from Monné and Hovore 2006), for *Acyphoderes*, *Bromiades* and related new genera, is in the order laid out in the text; with the new, out-group genus *Odontogracilis* included at the end.

Acyphoderes Audinet-Serville, 1833Group 1

- abdominalis** (Olivier, 1795:8) Nicaragua-Panama, cBrasil (AM, GO, MT),
olivieri Bates, 1870:328 Guianas, eEcuador, Peru, Bolivia (SC)
aurulenta (Kirby, 1818:443) seBrasil (GO, BA-RS), Argentina, Uruguay
sericinus White, 1855:195
abdominalis; Gahan, 1895:111 (not Olivier, 1795)

Group 2

- auricapilla** Fisher, 1947:3 seBrasil (SP, PR), Paraguay
azureoopallescens Tippmann, 1953:210
crinita (Klug, 1825:474) seBrasil (ES-RS), Paraguay
moestus Bates, 1873:117 Argentina
rubrohirsutotibialis Tippmann, 1953:210 Bolivia
hirtipes (Klug, 1825:473) seBrasil (BA-RS), Argentina
femoratus Klug, 1825:475
brachialis Pascoe, 1862:369
rufofemorata Fisher, 1930:12

Group 3

- amboroensis** Clarke, 2013 Bolivia (SC)
carinicollis Bates, 1873:119 seBrasil (GO, BA-RS), Bolivia (SC), Paraguay,
 var. *nigricans* Gounelle, 1911:150 Argentina, Uruguay

Bromiades Thomson, 1864:165

- brachyptera** (Chevrolat in Guérin-Meneville, 1838:285) Mexico-Colombia, Cuba

Acutiphoderes gen. nov.

- odyneroides** (White, 1855: 196) **comb. nov.** ecBrasil (PA, GO), Fr. Guiana, Peru, Ecuador

Anomaloderes gen. nov.

- itaiuba** (Martins and Galileo, 2004:23) **comb. nov.** Venezuela

Acyderophes gen. nov.

- fulgida** (Chemsak and Linsley, 1979:76) **comb. nov.** Mexico-Costa Rica

Forficuladeres gen. nov.

- forficulifera** (Gounelle, 1913:388) **comb. nov.** Panama, Colombia

propinquus Linsley, 1934:350

- sexualis** (Linsley, 1934:349) **comb. nov.** Mexico-Panama

Ameriphoderes gen. nov.Group 1

- acutipennis** (Thomson, 1860:179) **comb. nov.** Mexico (CM, OA, VC) - Honduras
ayalai (Chemsak and Linsley, 1988:124) **comb. nov.** wMexico (JA)
parva (Chemsak and Linsley, 1979:79) **comb. nov.** Mexico (SI, NA, JA)
velutina (Bates, 1885:290) **comb. nov.** Guatemala, Honduras
yucateca (Bates, 1892:159) **comb. nov.** Mexico (CA, CHS, QR, YU), Honduras
suavis (Bates, 1885:290) **comb. nov.** swUSA (sTX), Mexico-Costa Rica

Group 2

- amoena** (Chemsak and Linsley, 1979:74) **comb. nov.** wMexico (SI, NA, JA, OA)
bayanicus (Giesbert, 1991:381) **comb. nov.** Costa Rica, Panama
cribricollis (Bates, 1892:160) **comb. nov.** Mexico (-Costa Rica?)
magna (Giesbert, 1991:381) **comb. nov.** sMexico (CHS)
prolixa (Chemsak and Linsley, 1979:78) **comb. nov.** wMexico (CM)

Amerispheca* gen. nov.**delicata*** (Horn, 1894:400) **comb. nov.** Mexico (BC)***Brachyphoderes* gen. nov.*****dehiscens*** (Chemsak, 1997:15) **comb. nov.** El Salvador
longicollis (Chemsak and Noguera, 1993:80) **comb. nov.** wMexico (JA)***Odontogracilis* gen. nov.*****cracentis*** (Chemsak and Noguera, 1997:7) **comb. nov.** Mexico (JA)
exilis (Fisher, 1947:51) **comb. nov.** sMexico (CHS)-Panama
gracilis (Klug, 1825:472) **comb. nov.** seBrasil (ES-RS)
var. *perplexa* Melzer, 1922:9
elegans Guérin-Meneville, 1831:pl. 44, fig. 9
violaceus (Bezark, Santos-Silva and Martins, 2013) **comb. nov.** Costa Rica**Key to *Acyphoderes* Audinet-Serville, 1833 and related genera.**

Note. The following males have not been seen, *Acyphoderes auricapilla*, *A. rubrohirsutotibialis* and *Odontogracilis violaceus*. The following females have not been seen, *Acyphoderes amboroensis*, *Amerispheca delicata*, *Anomaloderes itaiuba*, *Brachyphoderes longicollis* and *Odontogracilis cracentis*.

1. Elytra Type 1-2 (Fig. 1, 2, 4, 6, 11, 12, 28-30), cuneate, or subulate and fissate; short, in both sexes length/width humeri 1.3-2.1 (but see species of *Acyphoderes* Group 1 for overlap). Mexico-Panama, Cuba, Colombia **2**
- Elytra Type 3-6 (Fig. 7-10, 13-26, 31-53, 55, 57-59) subulate, or subcuneate; in male length/width humeri 2.0-4.1; in female 1.7-4.1. Mexico-Argentina **4**
- 2(1). Elytra Type 1 (Fig. 11, 28, 29) cuneate; male abdomen Type 2 (Fig. 85, 86, 99, 100) sessile, cylindrical to weakly fusiform; in both sexes abdominal process flat to weakly inclined (30°); hind leg Type 1A or 2B (Fig. 101,104) **3**
- Elytra Type 2, subulate and strongly fissate; male abdomen Type 1A (Fig. 3, 61,62), petiolate; in both sexes abdominal process well inclined (60-70°); urosternite IV very wide, V as wide as III (and in female V explanate laterally); hind leg Type 3B (Fig. 106-108) not robust (with narrow peduncle and abrupt clava); in both sexes lengths hind leg/front leg 2.0-2.1; metatibia with long-haired brush on apical half. Mexico-Panama, Colombia. (Fig. 1-6) ***Forficuladeres* new genus**
- 3(2). Robust species; prothorax Type 1A; apex of elytra reach middle of urosternite I; in both sexes base of mesosternal process almost as broad as coxal cavity (widths coxal cavity/base of process 1.2); in female Abdomen Type 2A (Fig. 86); hind leg Type 1A (Fig. 101) robust (and strongly pedunculate-clavate); in both sexes lengths hind leg/front leg 2.0; metatibia with short, long-haired brush at apex. Cuba, Mexico-Colombia. (Fig. 11, 12) ... ***Bromiades* Thomson, 1864**
- Slender species; prothorax Type 1B; apex of elytra pass middle of urosternite I; base of mesosternal process much narrower than coxal cavity (male widths coxal cavity/base of process 2.8-3.0; in female 0.47); female Abdomen Type 2B (Fig. 100); hind leg Type 2B (Fig. 104) slender (and hardly pedunculate-clavate); male lengths hind leg/front leg 2.5-2.6, in female 2.7; metatibia with long, short-haired brush on apical half. Mexico, El Salvador. (Fig. 28-30) ***Brachyphoderes* new genus**
- 4(1). Elytra Type 2 or 3 (Fig. 7-10, 13-26, 53); prothorax Types 1-3 (Fig. 25, 26, 53); abdominal process usually flat, but may be moderately inclined, 0-30° (but see *Acutiphoderes* and *Anomaloderes* for notable exceptions) **5**

- Elytra Type 4, 5, or 6 (Fig. 31-52, 55, 57-59); prothorax Type 4 (Fig. 31-52, 55-59); abdominal process usually vertical or moderately strongly inclined, 45-90° (but see *Ameriphoderes magna* and *A. cribricollis* for notable exceptions). Primarily Mexico-Panama; South America 1 species **9**
- 5(4). Elytral humeri hiding sides of mesepimera (when viewed from directly overhead); male lengths hind leg/front leg 2.1 or 2.6. Venezuela, Mexico **6**
- Elytral humeri not hiding sides of mesepimera; male lengths hind leg/front leg 1.7-2.3. Primarily South American; Mexico-Costa Rica 1 species **7**
- 6(5). Prothorax Type 1B; length of forebody (f) slightly shorter than abdomen (a), f/a 0.9; elytra Type 3, elytral length/width humeri 2.7; abdominal process vertical; lengths hind leg/front leg 2.1; metatibia with dense long-haired brush. Venezuela. (Fig. 25) **Anomaloderes new genus**
- Prothorax Type 3A; length of forebody (f) distinctly shorter than abdomen (a), f/a 0.8; elytra Type 5, elytral length/width humeri 3.2; abdominal process weakly inclined (30°); lengths hind leg/front leg 2.6; metatibia with moderately dense short-haired brush. Mexico, Baja California. (Fig. 53, 54) **Amerispheca new genus**
- 7(5). Elytra Type 3D (Fig. 26), apex sharply acuminate and with spine; male abdomen Type 1C, but urosternite II transverse and rectangular (Fig. 67); abdominal process vertical; lengths hind leg/front leg 1.8; metatibia with long sparse pubescence, but no brush. Northern South America, central Brazil. (Fig. 26, 27) **Acutiphoderes new genus**
- Elytra Type 3A or 3C (Fig. 7-10, 13-24), apex not sharply acuminate, nor spined; male abdomen Type 1C, but urosternite II elongate and subconical, or Type 2A (Fig. 72, 74, 77, 79, 82, 85, 87, 89), petiolate or cylindrical; abdominal process weakly inclined; male lengths hind leg/front leg 1.7-2.3; metatibia with or without brush **8**
- 8(7). Prothorax Type 1, sides strongly rounded, depressed on disc (the single depression delimited by narrow arced calli); mesosternal process broader, in male widths of coxal cavity/base of process 1.4-2.2 (but see *A. amboroensis*), in female 0.9-1.7; metatibia with or without dense brush. South America. (Fig. 7-10, 13-21) **Acyphoderes Audinet-Serville, 1833**
- Prothorax Type 2 (Fig. 22-24), sides rounded (but not strongly); disc convex (with shallow, longitudinal depressions running between pronotal calli, these densely and minutely punctured); mesosternal process narrower, in male widths of coxal cavity/base of process 3.3, in female 2.3; metatibia with moderately dense brush. Mexico-Costa Rica. (Fig. 22-24) **Acyderophes new genus**
- 9(4). Larger, more robust species; prothorax Type 4A or 4B; male abdomen Type 1 or 2B (Fig. 63-66, 68, 87, 91, 93, 95, 97), not very long, nor very narrow; hind leg Type 1B, 3A or 3B (Fig. 102, 105-108), peduncle not exceptionally long (in male clave/peduncle 0.9-1.3, in female 0.7-1.5). USA-Panama. (Fig. 31-52) **Ameriphoderes new genus**
- Smaller, very slender species; prothorax Type 4C; male abdomen Type 2C (Fig. 56, 60), cylindrical, very long and very narrow; hind leg Type 3C (Fig. 109), peduncle exceptionally long (in male clave/peduncle 0.6-0.7; in female 0.6-0.8). Mexico-Panama, SE Brazil. (Fig. 55-60) **Odontogracilis new genus**

Acyphoderes Audinet-Serville, 1833

(Fig. 7-10, 13-21)

Type species. *Necydalis aurulenta* Kirby, 1818, Newman (1840) designation.*Acyphoderes* Audinet-Serville, 1833: 549. Monné 2005: 453 (cat.).

Diagnosis. Prothorax Type 1A in *Acyphoderes* Groups 1 and 2 species (only shared with *Bromiades*, see under this genus for diagnostics); or Type 1B in Group 3 species (shared with *Anomaloderes* and *Brachyphoderes*, see under these genera for diagnostics). Elytra subtype 3A only found in *Acyphoderes* Group 1 species; or subtype 3B in *Acyphoderes* Groups 2 and 3 species (shared with *Acyderophes* and *Anomaloderes*, see under these genera for diagnostics). Male abdomen Type 2A in all species of *Acyphoderes* (shared with *Acyderophes*, *Amerispheca*, *Anomaloderes* and *Bromiades*, see under these genera for diagnostics; and shared with *Ameriphoderes amoena*), but in *Acyphoderes* apical margin of urosternite V with broad projection at middle, or slightly bisinuate, or almost truncate, and inclination of abdominal process varies from flat to 30° (in *Ameriphoderes amoena* apical margin of urosternite V deeply excavate, and abdominal process with 45° inclination). Hind leg EITHER subtype 1A in *Acyphoderes* Group 1 species (only shared with *Bromiades*, see under this genera for diagnostics); OR subtypes 2A and 2B, the first unique to *Acyphoderes auricapilla*, the second unique to *Acyphoderes crinita* and *A. rubrohirsutotibialis*; OR subtype 3Ba in *Acyphoderes hirtipes* (shared with *Anomaloderes* and *Forficuladeres*, see under these genera for diagnostics); or subtype 3Bc in *Acyphoderes amboroensis* and *A. carinicollis* (shared with *Ameriphoderes bayanicus*, *A. cribricollis* and *A. prolixa*), but in the two species of *Acyphoderes* hind leg is 1.7-2.0 longer than front leg (in the three species of *Ameriphoderes* hind leg 2.3-2.5 longer than front leg). Aedeagus with Type 2 tegmen (shared with *Acyderophes* and *Bromiades*, see under these genera for diagnostics).

Description of genus. Medium sized (14.5-25.0 mm), compact species (Group 1 and 2 species), or moderately compact (Group 3 species); forebody 0.87-1.17 length of abdomen.

Head with eyes distinctly narrower than width of prothorax (width prothorax/head 1.24-1.54). Rostrum long, 1.7-2.1 wider than long (Group 2), or shorter, 2.4-2.75 (in Group 3 species), or short, 2.55-3.15 (Group 1 species). Maxillary palps short (Group 2 species) or long (Groups 1 and 3 species), apical palpomeres cylindrical with truncate apices; galea moderately long and narrow, or long and narrow (Group 1 species, and in *A. hirtipes*). Labrum moderately large, not strongly transverse, EITHER about 1.3 wider than long (in Group 1 species), OR 1.5 wider than long (in *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*), OR about two times wider than long (in Group 3 species, and in *A. hirtipes*); front margin emarginate, slightly declivous; sides rounded (most Group 2 and 3 species, and in *A. aurulenta*), or sides straight and convergent (in *A. abdominalis* and *A. crinita*). Clypeus usually flat, but moderately convex (in *A. carinicollis*), slightly inclined to labrum, and hardly wider; EITHER planar with frons (in *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*), OR slightly declivous (in *A. hirtipes*), OR strongly declivous (in Group 1 species). Frontal suture in female short, as sulcus or raised line, not reaching anterior margin of inferior lobes (in Groups 1 and 3 species, and in *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*), or nearly reaching clypeus (in *A. hirtipes*).

Inferior lobes of eyes in males large (especially in *A. crinita*) and round (in Groups 2 and 3 species), or distinctly wider than long (in Group 1 species), in female flatter and smaller; subcontiguous, in male width of one lobe 2.34-4.40 interocular distance (in female 1.14-1.60); their distal margins lying on frons in male, closer to gena in female, proximal margins usually transverse in males and weakly oblique in females.

Superior lobes moderately large and wide, and narrowed laterally (to 0.40-0.67 their mesal width, except female *A. auricapilla* 0.8); interocular distance/width of one lobe 1.9-2.5 (in Groups 2 and 3 species), or 2.4-2.8 (in Group 1 species); with fine ommatidia, in males arranged in approximately 13-15 rows (in Group 3 species), or 17-20 rows (in Group 2 species), or 21-23 rows (in Gp.1 species); in females, 13-18 (in Group 2 species), or 19 rows (in Group 3 species), or 23-24 (in Group 1 species).

Mentum-submentum represented by, EITHER quadrate area in male, subquadrate in female (in *A. crinita* and *A. rubrohirsutotibialis*), OR transverse area (in Groups 1 and 3 species, and in *A. auricapilla* and *A. hirtipes*); multicarinate (the carinas confused with small elliptical areas), and sparsely punctured (the punctures moderately small to large, alveolate, and usually situated in these ellipsoids).

Antennal tubercles rather small, rounded, weakly prominent (in female *A. auricapilla* somewhat prominent); the distance between them/width of scape 1.80-2.10 (in males of Group 2 species), or 2.00-2.10 (in males of Group 3 species), or 2.20-2.27 (in both sexes of Group 1 species, and in females of Group 2 and 3 species).

Antennae short, EITHER just reaching apex of metepisternum (in Group 1 females), OR apex of metasternum (in Group 1 males), OR rather short, just passing metacoxae (in Group 2 males), OR reaching from metacoxae to near middle of urosternite I (in Groups 2 and 3 females); EITHER subfiliform (in Group 3 species), OR subcrassate (in *A. abdominalis*, *A. crinita* and *A. rubrohirsutotibialis*, and least so in *A. auricapilla*), OR nearly crassate (in female *A. aurulenta* and in both sexes of *A. hirtipes*); scape subcylindrical (in most Group 2 species, and in both Group 3 species), or subpyriform (in *A. hirtipes*), or pyriform (in Group 1 species); antennomere III filiform, EITHER shorter than scape (0.7-0.8 length of scape in Group 1 species), OR longer than scape (1.13-1.19 in Group 3 species), OR much longer than scape (1.29-1.46 in most Group 2 species, and even longer in male *A. hirtipes* 1.67); IV subcylindrical, short (0.40-0.66 length of III (in Groups 2 and 3 species), or moderately long (0.8-0.9 length of III in Group 1 species), shorter than V (in Groups 2 and 3 species, and in *A. aurulenta*), equal in length to V (in *A. abdominalis*); V subcylindrical (in Groups 2 and 3 species), or strongly widened at apex and serrate (in Group 1 species, but weakly serrate in females of *A. aurulenta* and *A. carinicornis*), and slightly longer than VI (in Groups 2 and 3 species), or subequal to VI (in Group 1 species); VI widened at apex and strongly serrate, equal to VII or slightly longer; VII-X incrementally shorter, widened at apex and strongly serrate; XI longer than X, with moderately small cone, the latter narrow (in *A. aurulenta*, *A. crinita*, *A. rubrohirsutotibialis*, and males of *A. hirtipes* and *A. amboroensis*), and in some of these species rendering this segment somewhat subserrate in appearance.

Prothorax Type 1. Subtype 1A (in Groups 1 and 2 species), or subtype 1B (in Group 3 species). Subtype 1A. Prothorax discoid (length/width 0.90-1.08). Central depression less ample and not as deep in *A. auricapilla*; lateral calli do not project beyond sides of pronotum in *A. auricapilla* and some females of *A. hirtipes*; lateral calli crimped at middle (in most species). Subtype 1B. Prothorax obovate (length/width 1.03-1.12).

Prothorax subtypes 1A and 1B. Front margin (f) slightly narrower, to wider, than hind margin (h), in male f/h 0.85-1.10, in female 0.84-1.05. Apical constriction weak; basal constriction EITHER moderately broad, and to either side of midline connected to central depression (in Group 2 and 3 species), OR moderately broad and deep laterally, narrower and separated from deepest part of central depression by slight ridge towards midline (in Group 1 species). Sides EITHER widest close to middle, prothoracic quotient 1.97-2.13 (in Group 1 males and some females of *A. hirtipes*), OR before middle, prothoracic quotient 2.21-2.33 (in Group 2 males and female *A. hirtipes*, and in Group 1 females), OR well before middle, prothoracic quotient 2.58-2.96 (in most Group 2 females, in Group 3 males, and in female *A. carinicornis*). Surface of pronotum uneven; and details may be obscured by rugose puncturation (in all Group 2 species). Disc of pronotum EITHER with moderately broad, long callus at midline (in Group 1 species, and *A. carinicornis*), OR this callus mostly evanescent (in most Group 2 species, and in *A. amboroensis*), OR absent (in *A. auricapilla*); and pair of calli to either side of midline (anterior callus narrow, the posterior callus broad), these connected to form an inverted comma-shaped crescent delimiting basal two-thirds of pronotal disc, the crescent abrupt (in Group 1 species), prominent, but rounded (in Groups 2 and 3 species).

Prosternum EITHER declivous for apical third (in male *A. hirtipes*); OR apical half (in females of *A. hirtipes*), OR hardly declivous (in Groups 1 and 3 species, and females of *A. auricapilla* and *A. rubrohirsutotibialis*, and both sexes of *A. crinita*); surface of prosternum EITHER inclined to prosternal process (in Group 1 species, and some Group 2 species), OR rather flat (in Group 3 males, and in females of *A. auricapilla*, and in both sexes of *A. hirtipes*), OR tumid (in both sexes of *A. crinita*, and females of *A. carinicornis* and *A. rubrohirsutotibialis*); and the surface adjacent to base of prosternal process raised into large conical tubercle (in Group 1 species). Prosternal process flat, or exceptionally arched (in male *A. amboroensis* and female *A. auricapilla*); base exceptionally broad in male, 1.87-2.17 times narrower than width of procoxal cavity (in males of Group 1 species, and 1.56 in females); or moderately narrow in both sexes, 2.44-8.00 times narrower than width of procoxal cavity (in Groups 2 and 3 species; narrowest in *A. amboroensis*, widest in female *A. crinita*). Apex of process strongly declivous across apical third; EITHER characteristically, axe-shaped (in Gp.1 species), OR more typically, large and trapezoidal (in most Group 2 species, and both Group 3 species), OR somewhat triangular and not declivous (in female *A. auricapilla*). Procoxal cavities plugged at sides, closed behind.

Mesosternum abrupt and deep. Base of mesosternal process EITHER wider than, or nearly as wide as, mescoxal cavity, coxal cavity 0.92-1.09 width of process (in Group 1 females), OR narrower than

coxal cavity, coxal cavity 1.39-1.41 wider than process (in Group 1 males), OR 1.31-2.20 wider than process (in Group 3 females, and Group 2 species, narrowest in male *A. hirtipes*, widest in females of *A. hirtipes* and *A. crinita*), OR 2.13-3.00 wider than process (in Group 3 males); apex of process bilobed, the lobes hardly divergent, each one rather broad and rounded at apex. Mesocoxal cavity moderately open to epimeron.

Length of mesosternum/metasternum 0.60-0.87.

Elytra Type 3. Subulate; and subfissate for apical half (in Group 1 species), or for apical two-thirds (in Groups 2 and 3 species; but *A. carinicornis* shows considerable variation).

Subtype 3A (Group 1 species). Relatively short, in male 1.98-2.00 longer than width of humeri, in female 1.70-1.91 longer; apex reaching from middle to apical third of urosternite II (in *A. abdominalis*), from basal quarter to basal third of II (in *A. aurulenta*); apical margin acuminate.

Subtype 3B (in Groups 2 and 3 species). Moderately long, in males, 2.60-2.70 longer than width of humeri, in females shorter, 2.30-2.61; in males apex reaching from middle of urosternite III to middle of IV, in females basal third of III to base of IV; apical margin narrow and blunt (subacuminate).

Subtypes 3A and 3B. Each elytron with well demarcated translucent panel (less so at base in *A. aurulenta*); regularly narrowed from humeri to apex (in Group 1 species), or regularly narrowed from humeri to apical two-thirds, almost parallel to apex (in Groups 2 and 3 species). Humeri not or hardly projecting (projecting in *A. amboroensis*); almost square and hardly prominent (in Group 1 species, and in *A. carinicornis*, *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*), or well rounded and moderately prominent (in *A. amboroensis* and *A. hirtipes*).

Metathorax broad; sides EITHER subparallel with apical margin oblique (in females of *A. carinicornis* and *A. auricapilla*), OR sides weakly rounded and converging towards apex, and apical margin moderately oblique (in *A. abdominalis*, *A. amboroensis*, male *A. carinicornis* and *A. hirtipes*), OR apical margin almost truncate (in *A. aurulenta*), OR strongly rounded from base to middle of apex (in *A. crinita* and *A. rubrohirsutotibialis*). Metasternum tumid, but broadly flattened on disc; more or less planar with mesocoxae, but well below level of mesocoxae (in males and some females of *A. hirtipes*); longitudinal suture moderately shallow to moderately deep, but always long. Metepisternum cuneate, broad at base, subacuminate at apex.

Male abdomen Type 2. Cylindrical or subcylindrical; apical segments not distinctly wider than basal segments; urosternite II not conical.

Subtype 2A in all three Groups (Fig. 72, 74, 77, 79, 82, 84). Widest at base of urosternite I, or middle of I/base of II, hardly narrowed to apex, or slightly wider towards apex (in *A. amboroensis*); urosternites I-IV parallel-sided, but slightly contracted at base and apex; urosternite I quadrate or elongate, II-IV transverse. Male urosternite V EITHER cylindrical (in Group 1 species), OR trapezoidal (in Group 3 species, and in *A. crinita*), OR quadrate (in *A. hirtipes*); soleate depression EITHER shallow without raised sides (in Group 1 species), OR with weakly raised sides (in *A. hirtipes*), OR soleate depression deep with narrow sides, these increasingly projecting towards base (in *A. amboroensis*, *A. carinicornis* and *A. crinita*), and terminating in pair of acute tubercles (in *A. carinicornis* and *A. crinita*); apical margin EITHER with abrupt, broad projection at middle (in Group 1 species, and in *A. carinicornis* and *A. hirtipes*), OR slightly bisinuate (in *A. amboroensis*), OR almost truncate (in *A. crinita*).

Female abdomen (Fig. 73, 75, 76, 78, 80, 81, 83) fusiform, rather wide and flat (less so in *A. abdominalis*, more so in *A. aurulenta*). Urosternite V EITHER trapezoidal or subconical, and rather short to moderately long (in Groups 1 and 3 species, and in *A. crinita*, *A. hirtipes* and *A. rubrohirsutotibialis*), OR very short and transverse (in *A. auricapilla*); the surface undifferentiated and weakly declivous across middle (in Groups 1 and 3 species, and in *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*), OR characteristic and male-like, with rounded soleate depression between basal and apical thirds, the depression U-shaped and demarcated by narrow, raised sides (in *A. hirtipes*); apical margin simply rounded to subacuminate (in Groups 1 and 3 species, and in *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*), or apical third of segment narrowed and parallel-sided, and truncate at apex (in *A. hirtipes*).

Male and female abdominal process broadly triangular, with rather blunt apex (in Group 1 species, most Group 2 species, and in female *A. carinicornis*), or narrowly triangular with acuminate apex (in Group 3 males, and in male *A. hirtipes*); in most species EITHER planar with abdomen, or almost so (in most females, in male *A. hirtipes*, and in both sexes of *A. carinicornis*); OR with 10-15° slope (in Group 1 males, male *A. crinita*, and some female *A. hirtipes*), OR with 30° slope (in male *A. amboroensis*).

Apical tergite in male cylindrical to subcylindrical, rather short to moderately long, broad, strongly convex, and rounded at apex. In female apical tergite subconical to subcylindrical, long, narrow and flat, apex truncate, rounded or subacuminate (in *A. abdominalis*, and in Groups 2 and 3 species), or somewhat trapezoidal and short, but with narrow, excavate-sided extension to rounded apex (in *A. aurulenta*); and midline occupied by narrow raised line (in Group 2 species, becoming wide and strongly raised in *A. hirtipes*; and in Group 3 species).

Legs. Ratio lengths front/middle/hind leg 1.0:1.1:1.7-1.9 (in Group 1 species), or 1.0:1.1-1.2:1.7-2.0 (in Group 3 species), or 1.0:1.1-1.4:2.0-2.4 (in Group 2 species).

Front and middle legs moderately long to long (body length/length of legs 2.2-2.8 and 1.8-2.4 respectively); moderately strongly pedunculate-clavate (in Group 3 species), or strongly pedunculate-clavate (least so in *A. auricapilla*).

Front Leg. Profemoral clave tumid mesally, pro- and mesofemoral claves broad and abrupt. Protibiae shorter or longer than profemora; narrow at base, EITHER gradually widening to apex (in Groups 1 and 3 species), OR gradually widening to middle (in some female Group 2 species), OR somewhat abruptly widening to middle (in females of *A. hirtipes*), and parallel-sided to apex, OR very abruptly widened to middle, and narrowing to apex (in male *A. hirtipes*); apical margin oblique.

Middle Leg. Mesofemur longer in males than in females, in males 1.29-1.45 longer than mesotibia (shortest in male *A. abdominalis*, longest in male *A. hirtipes*), in females 1.22-1.32 longer than mesotibia (shortest in female *A. abdominalis*, longest in female *A. hirtipes*). Mesotibia moderately short and robust (in Group 1 species and in *A. hirtipes*), or moderately short and slender (in the remaining species); narrow at base, EITHER gradually widening to apex (in Groups 1 and Group 3 species, and in *A. crinita*), OR parallel-sided for apical half (in male *A. hirtipes*), OR parallel-sided for apical two-thirds (in female *A. hirtipes*, and in remaining Group 2 species).

Hind leg (Fig. 101, 103, 104, 106, 108) subtype 1A (in Group 1 species), or Types 2 or 3 (in Groups 2 and 3 species). EITHER long, body length 1.0-1.2 longer than legs (in Group 2 species, and in *A. carinicornis*), OR moderately long, body length 1.3-1.4 longer than legs (in Group 1 species), OR short, body length 1.6 longer than legs (in *A. amboroensis*).

Hind leg subtype 1A (Fig. 101) in *A. abdominalis* and *A. aurulenta*. Metafemoral peduncle moderately short (length clave/peduncle 1.35-1.80); apical half of metatibia with rather short, compact, dense, rufous, or rufous and black brush.

Hind leg Type 2 (Fig. 103, 104) in *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*. Metafemoral peduncle flattened, and moderately short to long (length clave/peduncle 0.85-1.75); apical half of metatibia with rather long, but not very wide, black, or yellow to rufous brush.

Subtype 2A (Fig. 103) in *A. auricapilla*. Legs moderately robust; apex of clave reaching middle of urosternite IV.

Subtype 2B (Fig. 104) in *A. crinita* and *A. rubrohirsutotibialis*. Legs slender; apex of clave reaching from base to apex of urosternite V.

Hind leg Type 3 (in *A. amboroensis*, *A. carinicornis* and *A. hirtipes*). Peduncle flattened, narrow, and moderately short to very long (length clave/peduncle 0.85-1.30); metatibia with or without brush; metatarsomere I cylindrical or subcylindrical, I/II+III (1.0-1.1).

Subtype 3Ba (Fig. 106) in *A. hirtipes*. Apex of clave reaching apex of urosternite IV to apex of V; apical half of metatibia with rather long, but not very wide, black, or rufous brush.

Subtype 3Bc (Fig. 108) in *A. amboroensis* and *A. carinicornis*. Apex of clave reaching from apex of urosternite III to middle of urosternite IV; metatibia without brush.

Hind leg Types 1, 2 and 3. Metafemoral apex (when viewed laterally) weakly narrowed (in Group 1 species and most Group 2 species), or moderately strongly narrowed (in Group 3 species, and some female *A. hirtipes*). Metatibia (when viewed from above) EITHER almost straight (in *A. carinicornis*), OR bent inwards for apical third (in Group 1 species), OR bent inwards for apical half (in Group 2 species, and in *A. amboroensis*); shorter than metafemora; robust (in Group 1 species), or elegant (in Groups 2 and 3 species); and gradually widening to apex. Metatarsus moderately short, less than half, to half length of metatibia (in both sexes of *A. carinicornis*, in male of *A. abdominalis* and females of *A. auricapilla* and *A. hirtipes*), or long, more than half length of metatibia (in female *A. abdominalis*, male *A. amboroensis*, and both sexes of *A. aurulenta*, and in *A. crinita*, male *A. hirtipes* and female *A. rubrohirsutotibialis*).

Metatarsomere I trapezoidal (in some Group 1 species) or cylindrical (in some Groups 1 and 2 species); II subtrapezoidal; III moderately long, with weakly divergent lobes.

Male genitalia. Aedeagus Type 2 (Fig. 112-115, 118)

Tegmen Type 2. Lateral lobes (length/width 4.4-7.1) paddle-shaped apically; base moderately broad; divergent at base; towards apex more so, or subparallel, or convergent; densely chitinized; twisted; and basal piece short.

Subtype 2a (Fig. 112, 113) in *A. abdominalis* and *A. crinita*. Lateral lobes (length/width 5.5-7.1) strongly divergent from base to apex; apices non abrupt, elongate paddles; extreme apex and lateral side of paddle setose.

Subtype 2b (Fig. 114, 115) in *A. aurulenta* and *A. hirtipes*. Lateral lobes (length/width 4.8-5.3) divergent at base, convergent towards apex (but widely separated throughout); apices abrupt, rounded paddles; hardly setose.

Subtype 2d (Fig. 118) in *A. amboroensis* and *A. carinicollis*. Lateral lobes (length/width 4.4) subparallel to slightly divergent; apices weakly abrupt, elongate, narrow paddles; apex and sides of paddle setose.

Median lobe Type 1. Length of median lobe 2.3 mm (in Group 3 species), 2.7 mm (in Group 2 species), 2.8-3.0 mm (in Group 1 species).

Surface ornamentation/pubescence. On upper side notable pubescence (discrete areas of dense, recumbent, metallic or brightly colored pubescence) only present on frons between eyes, most of pronotum, and scutellum; the pubescence recumbent (in *A. aurulenta* pale golden in color, in male *A. hirtipes* brassy and ochraceous, in females of *A. hirtipes* bright coppery), or replaced by notably dense, erect, pubescence on pronotum (in *A. abdominalis* mostly dark golden in color, in *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis* black, and mixed with longer, setose-like hairs). Elytra almost glabrous; but some semirecumbent hairs between humeri; and translucent panels with rows of fine punctures, each with a short, erect, black hair.

Antennal scape, and antennomeres III (in *A. abdominalis* and *A. aurulenta*), III and IV (in *A. crinita* and *A. rubrohirsutotibialis*), III-V (in Group 3 species), III-VI (in *A. auricapilla* and *A. hirtipes*) with fringe of black setae on meso-ventral surface. Pedicel and apex of III-VI with 2-4 longer, thicker setae at apex; VII-X usually with single, incrementally smaller seta at apex.

On underside notable pubescence limited to prosternum (apical third glabrous in Group 1 species, and most of prosternum in female *A. carinicollis*). EITHER with very long, often untidy, semi-erect hairs (in Group 3 males semi-erect, ashy colored hairs), OR recumbent hairs (in male *A. hirtipes* ashy colored hairs; in male *A. aurulenta* very long and brassy in color; in female *A. aurulenta* shorter, but denser, rufous on prosternum, golden on prosternal process; in male *A. abdominalis* shorter and untidy, brassy and black in color; in female *A. abdominalis* short, erect, and black in color); mesepimeron and adjacent sides of mesosternum (in Group 1 species golden colored hairs; in male *A. hirtipes* brassy hairs, in female ochraceous hairs; in Group 3 species ashy-white to silver hairs; in some female *A. hirtipes* silver colored hairs; in *A. crinita* with whitish hairs, but not extending to sides of mesosternum in male); and all of metasternum, and much of metepisternum (in *A. aurulenta* and in males of *A. crinita* and *A. hirtipes* with brassy hairs, in females somewhat dusky hairs), or basal half of metasternum and extreme apex of metepisternum (in *A. abdominalis* with brassy hairs, and in Group 3 species with silver hairs).

Less notable pubescence long, semi-erect, moderately dense hairs (usually untidy and sometimes rather sparser and shorter) supplement the underside pubescence at centre of prosternum (in both sexes of *A. crinita*, and females of *A. auricapilla* and *A. rubrohirsutotibialis* with dusky hairs; and in females of *A. hirtipes* with ochraceous hairs); sides of meso- and metasternum (in Group 1 species with pale golden hairs; in *A. amboroensis* with brownish hairs); apical half of metasternum and most of metepisternum (in Group 3 species with silver colored pubescence); OR dense, short, and recumbent pubescence uniformly covering most of meso- and metasterna (in females of *A. auricapilla* with rufous hairs, and *A. rubrohirsutotibialis* with rufous and black hairs).

Abdomen lacking notable pubescence (except in Group 3 species), and urosternite I often rather glabrous; urosternites II-IV EITHER mostly glabrous with scattered patches of recumbent, fine, short pubescence, and longer, sparser semi-erect hairs supplementing these patches (in Group 1 males); OR II-IV almost uniformly clothed with, recumbent, moderately short and dense hairs (in females of *A.*

abdominalis and *A. auricapilla* with ashy colored hairs, in *A. rubrohirsutotibialis* and some *A. hirtipes* with black hairs, in *A. aurulenta* with black and rufous hairs, in some females *A. hirtipes* with rufous hairs; and in both sexes of Group 3 species with denser silver colored hairs of more notable appearance, supplemented by ocellate patches in males); OR II-IV with rather sparse, very short, somewhat setose-like hairs (in *A. crinita* with ashy and yellowish hairs, in male *A. hirtipes* with testaceous hairs).

Legs. Femora rather densely clothed with fine, long, pale hairs; recumbent on profemora; suberect on meso- and metafemora (in *A. abdominalis* and *A. amboroensis*), or femora clothed with thick, rather stiff-looking, black hairs (in Group 2 species, and in *A. aurulenta* and *A. carinicornis*). Metatibiae with moderately long haired, dense brush (lacking brush in Group 3 species), occupying apical two-thirds (in Group 2 species), or apical half (in Group 1 species), the hairs EITHER mostly yellowish (in female *A. auricapilla*), OR rufous (in *A. abdominalis*, some *A. crinita*, and females of *A. hirtipes* and *A. rubrohirsutotibialis*), OR rufous and black (in *A. aurulenta*), OR black (in some *A. crinita*). Metatarsi EITHER rather densely covered by thick, long hairs (in *A. aurulenta*, in male *A. crinita* with black hairs, in both sexes of *A. hirtipes* with yellow hairs), OR rather short hairs (in females of *A. crinita* and *A. rubrohirsutotibialis* with black hairs), OR metatarsi covered by rather fine hairs (in Group 3 species black hairs, in *A. abdominalis* rufous hairs, in female *A. auricapilla* yellow hairs).

Surface ornamentation/puncturation. On upper side frons and vertex of head densely punctate, the punctures deep and alveolate. Pronotum EITHER entirely and densely, rugosely punctured, the punctures rather small, alveolate and deep; and embedded in matrix of dense micropunctures (in Group 1 species, *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*); and on apices of the broad, basal calli the punctures infiltrated by network of smooth carinas (in Group 1 species); OR entirely and densely covered with alveolate punctures (with smooth impunctate areas on calli), otherwise the punctures uniformly distributed and all of small size (in *A. amboroensis*), or larger on, and adjacent to, calli, denser, smaller, and variable in size in depressed areas (in both sexes of *A. carinicornis*).

Antennal scape with small rounded punctures; moderately dense (in Group 3 species; in *A. aurulenta*, *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*), or moderately sparse (in *A. abdominalis* and *A. hirtipes*).

Elytra rather densely punctate (except on translucent panels), the punctures alveolate or simple, on the following. Across base subcontiguous, on humeri denser (in Group 1 species somewhat evanescent) and beveled; a single row of very small punctures adjacent to sutural border; epipleur with 2-5 rows of larger and smaller, deep and confluent punctures; and rather disperse rows of very small, shallow, setose punctures on translucent panels.

On underside puncturation partially hidden by pubescence. Prosternal puncturation variable, EITHER with smooth surface, the punctures mostly contiguous (but in some areas becoming confluent), alveolate, relatively small to moderately large, and deep (in *A. amboroensis*, in *A. crinita*, in females of *A. hirtipes* and *A. rubrohirsutotibialis*), OR the punctures confluent, and the surface rugose (in female *A. auricapilla* the surface dull, in *A. carinicornis* the surface shining), OR surface not rugose, but dull and reticulate, all punctures contiguous, alveolate, and small (and of similar size), embedded in matrix of micropunctures (in male *A. hirtipes*); OR apical third usually finely carinate, and almost impunctate (in female *A. abdominalis*), OR moderately closely punctured (in *A. aurulenta*), the punctures alveolate and mostly small; basal two-thirds densely punctate (in female *A. abdominalis* the punctures a mixture of contiguous and confluent ones; in both sexes of *A. aurulenta* somewhat rugosely punctate; in male *A. abdominalis* uniformly, very densely and minutely punctate). Mesosternum at midline EITHER surface smooth, with fine, round, non-alveolate punctures of mixed size (in Group 2 species); OR midline, including mesosternal process, rugosely punctured, the punctures embedded in matrix of micropunctures (in Groups 1 and 3 species); towards sides EITHER front and hind margins of declivity with moderately small punctures embedded in matrix of micropunctures, and middle of declivity smooth and sparsely punctured (in *A. hirtipes*), OR almost whole surface with moderately small punctures embedded in matrix of micropunctures (in *A. auricapilla*, *A. crinita* and *A. rubrohirsutotibialis*), OR adjacent to midline smooth, shining and sparsely punctured, the punctures moderately large to very small, rather shallow and non-alveolate, and towards sides hidden by dense pubescence, but appears to be somewhat rugosely punctured (in Groups 1 and 3 species). Metasternum with EITHER entire surface rather dull and micropunctate with scattered larger, shallow punctures below dense pubescence (in Groups 1 and 3

species, *A. crinita* and *A. rubrohirsutotibialis*), OR only basal half of metasternum similarly punctured (in *A. auricapilla* and *A. hirtipes*); and on glabrous areas of apical half the surface EITHER smooth, and impunctate with group of thirty or so, small tubercles (in male *A. hirtipes*), OR the surface sculpted, with tracery of slender, arced carinas creating rows of very dense microsculpture, among which small, scattered punctures occur, these shallow and alveolate (in females of *A. auricapilla* and *A. hirtipes*). Metepisternum usually similar to pubescent areas of metasternum.

Distribution of the abdominal puncturation mirrors the state of its pubescence (see above); the punctures in all species small to very small; rather shallow and beveled (in Group 2 species); and in matrix of micropunctures (in Groups 1 and 3 species).

Species groups. The genus is divided into three species groups (see the list of species of *Acyphoderes*), with the following diagnoses based on males unless otherwise stated.

Group 1. Rostrum short (width/length 2.8-3.2); antennae do not pass apex of metasternum, and in both sexes antennomere III shorter than scape (lengths antennomere III/scape 0.7-0.8); prothorax subtype 1A, transverse in females; elytra subtype 3A; hind leg subtype 1A, apical half of metatibia with brush. Aedeagus Type 2a or 2b.

Group 2. Rostrum long (width/length 1.7-1.8); antennae just pass metacoxae, and in both sexes antennomere III distinctly longer than scape (lengths antennomere III/scape 1.3-1.7); prothorax subtype 1A, usually elongate in females; elytra subtype 3B; hind leg subtypes 2A, 2B or 3Ba, apical two-thirds of metatibia with brush. Aedeagus Type 2a or 2b.

Group 3. Rostrum moderately short (width/length 2.4-2.5); antennae reach apical third of urosternite I, and in both sexes antennomere III not much longer than scape (lengths antennomere III/scape 1.1-1.2); prothorax subtype 1B, elongate in females; elytra subtype 3B; hind leg subtype 3Bc, metatibia without brush. Aedeagus Type 2d.

Key to the Species-groups of *Acyphoderes* Audinet-Serville, 1833 based on males

(Males of *A. auricapilla* and *A. rubrohirsutotibialis* not seen.)

1. Metatibiae with brush on apical half, or apical two-thirds; rostrum either very short (width/length 2.8-3.2), or long (width/length 1.7-1.8); length antennomere III either short (lengths III/scape 0.73-0.82), or long (lengths III/scape 1.40-1.67); apex of elytra reaching urosternite III **2**
- Metatibiae simply setose; rostrum short (width/length 2.4-2.5); length antennomere III moderately short (lengths III/scape 1.14-1.19); apex of elytra reaching urosternite III or IV **Group 3**
- 2(1). Rostrum width/length 2.8-3.2; length antennomere III short (lengths III/scape 0.73-0.82); prosternum with large rounded tubercle at centre; base of prosternal process about half (0.46-0.54) width of coxal cavity; lengths of elytra/forebody 0.85; elytra subtype 3A, shorter (length/width of humeri 1.98-2.00), apex reaching urosternite II; apical urosternites without tubercles or spines; hind leg subtype 1A, apex of metafemora reaching urosternite IV; apical half of metatibia with brush; metatarsomere I/II+III 0.63 **Group 1**
- Rostrum width/length 1.7-1.8; lengths antennomere III/scape 1.40-1.67; prosternum flat, or tumid at centre (but without tubercle); base of prosternal process less than one third (0.18-0.28) width of coxal cavity; lengths of elytra/forebody 1.03-1.06; elytra subtype 3C, longer (length/width of humeri 2.64-2.70), apex reaching urosternite IV; apical urosternites with or without tubercles or spines; hind leg subtypes 2A, 3B, apex of metafemora reaching urosternite V; apical two-thirds of metatibia with brush; metatarsomere I/II+III 1.00-1.17 **Group 2**

Key to the Species-groups of *Acyphoderes* Audinet-Serville, 1833 based on females

(Female of *A. amboroensis* not known.)

1. Antennomeres III and IV narrow, cylindrical and not widened at apex, VI-X not strongly serrate (apex of each segment less than 2 times wider than base), lengths antennomere III/scape 1.13-

- 1.46; prosternum flat, or tumid at centre (but without tubercle); base of prosternal process less than half (0.25-0.41) width of coxal cavity; elytra longer (length/width of humeri 2.3-2.6), apex reaching urosternite III-IV; apical tergite narrow with subparallel sides, and usually with strongly raised keel at midline; metatibiae with brush or simply setose; metatarsomere I/II+III 1.00-1.31 **2**
- Antennomere III and IV incrassate and widened at apex, VI-X strongly serrate (apex of each segment 2-3 times wider than base), lengths antennomere III/scape 0.73-0.81; prosternum with large rounded tubercle at centre; base of prosternal process nearly two-thirds (0.63-0.64) width of coxal cavity; elytra shorter (length/width of humeri 1.7-2.0), apex reaching urosternite II; apical tergite conical and lacking strongly raised keel at midline (*A. aurulenta* may have feeble one); apical half of metatibia with brush; metatarsomere I/II+III 0.64-0.75 **GROUP 1**
- 2(1). Lengths antennomere III/scape 1.29-1.46; rostrum width/length 1.70-2.00; lengths elytra/forebody 1.04-1.20; apical tergite with strongly raised keel at midline; apical two-thirds of metatibia with brush **GROUP 2**
- Lengths antennomere III/scape 1.13; rostrum width/length 2.75; lengths elytra/forebody 0.96; apical tergite hardly raised at midline; metatibiae simply setose **GROUP 3**

Key to the Group 1 species of *Acyphoderes* based on males and females

1. General body color brownish, including, abdomen, front and middle legs; in male rostrum rather narrow (width/length 2.47), in female rather wide (width/length 2.78); in both sexes abdomen short (lengths forebody/abdomen 1.16-1.17); in female apex of metafemora reaching apex urosternite IV; lengths metafemoral clave/peduncle 1.30-1.52. Male 19.8 mm. (Fig. 7). Female 23.0 mm. (Fig. 8). SE Brazil, Argentina, Paraguay ***A. aurulenta* (Kirby, 1918)**
- General body color black, including abdomen, front and middle legs; in male rostrum rather wide (width/length 2.76), in female rather narrow (width/length 2.50); in both sexes abdomen longer (lengths forebody/abdomen 0.95-1.00); in female apex of metafemora reaching apex urosternite III; lengths metafemoral clave/peduncle 1.55-1.80. Male 23.7 mm. (Fig. 9). Female 22.6 mm. (Fig. 10). Central and South America ***A. abdominalis* (Olivier, 1795)**

Key to the Group 2 species of *Acyphoderes* based on females

(Males of *A. auricapilla* and *A. rubrohirsutotibialis* not seen.)

1. Urosternite II subrectangular, apex not much wider than base; urosternite V strongly differentiated (Fig. 76, 78), with basal two-thirds soleate, apical third flat and slightly projecting laterally, and apical margin subtruncate; lengths mesosternum/metasternum 0.83-0.89; protibiae excised for basal third, abruptly widened for apical two-thirds. Female 20.5 mm. (Fig. 14). SE Brazil, Argentina ***A. hirtipes* (Klug, 1825)**
- Urosternite II subconical, apex distinctly wider than base; urosternite V not strongly differentiated, and not soleate, and apical margin rounded or subacuminate; lengths mesosternum/metasternum 0.58-0.69; protibiae gradually widening from base towards apex **2**
- 2(1). Rostrum width/length 2.0; width of one inferior lobe of eyes/interocular distance 1.1; lengths antennomere III/scape 1.45; prothorax transverse (length/width 0.81); base of prosternal process about one third (0.30) width of coxal cavity; lengths mesosternum/metasternum 0.58; mesocoxal cavity 1.73 wider than base of mesosternal process; elytra widely fissate (and with violet reflection); urosternite V (Fig. 80) strongly transverse, length/width 2.4; middle leg 1.4 longer than front leg; lengths metafemoral clave/peduncle 1.75; metatibia yellow, with brush of same color occupying apical four-fifths; lengths metatarsomere I/II+III 1.00. Female 16.6 mm. (Fig. 18). SE Brazil, Paraguay ***A. auricapilla* Fisher, 1947**
- Rostrum width/length 1.7-1.8; width of one inferior lobe of eyes/interocular distance 1.4-1.7; lengths antennomere III/scape 1.29; prothorax quadrate to slightly elongate; base of prosternal process more than one third (0.40) width of coxal cavity; lengths mesosternum/metasternum

- 0.69; mesocoxal cavity 1.31-1.46 wider than base of mesosternal process; elytra less widely fissate (and without violet reflection); urosternite V (Fig. 81) weakly transverse to elongate; middle leg 1.1-1.2 longer than front leg; lengths metafemoral clava/peduncle 0.85-0.89; metatibia black with rufous, rufous-yellow, or black brush (in *A. crinita*), or yellow with rufous brush (in *A. rubrohirsutotibialis*); lengths metatarsomere I/II+III 1.14-1.31 3
- 3(2). Width of one inferior lobe of eyes/interocular distance 1.6; lengths of forebody/abdomen 1.1; urosternite II sparsely punctured, and sides not rounded; urosternite V more elongate and subconical, slightly depressed at midline, but not depressed across middle, nor down turned at apex; metafemoral clava black, peduncle dark chestnut; metatibia black, with rufous, rufous-yellow or black brush (occupying apical two-thirds); metatarsomeres black; lengths I/II+II 1.14. Female 20.3 mm. (Fig. 16). Brazil, Bolivia, Paraguay, Argentina ***A. crinita* (Klug, 1825)**
- Width of one inferior lobe of eyes/interocular distance 1.4; lengths of forebody/abdomen 0.9; urosternite II densely punctured, and sides rounded (much more so than other segments); urosternite V trapezoidal, transverse, depressed across middle, and down turned at apex; metafemora clava black, peduncle yellow; metatibia yellow (except extreme base), with long rufous brush (occupying most of tibia); metatarsomeres yellow; lengths I/II+II 1.31. Female 24.8 mm. (Fig. 17). Bolivia, Peru ***A. rubrohirsutotibialis* Tippmann, 1953**

Key to the Group 3 species of *Acyphoderes* based on males

(Female of *Acyphoderes amboroensis* not known.)

1. Legs either blackish with only peduncles of meso- and metafemora yellow (in some Sao Paulo and Goiás examples), or mainly rufous and yellow, with black tibiae (in some Sao Paulo and Goiás examples, Espirito Santo, and Bolivia); width of one inferior lobe of eyes/interocular distance 3.4; pronotum with patches of golden or silvery pubescence, and both midline and lateral calli partly impunctate; base of prosternal process about one third width of coxal cavity; elytra Type 3, apex reaching middle of urosternite III; widths of mesocoxal cavity/base of mesosternal process 2.13; abdomen subtype 2A (Fig. 82); abdominal process planar with abdomen; sides of soleate depression at base of urosternite V raised into pair of upright tubercles; hind leg Type 2, lengths of clava/peduncle 0.85. Male 15.3 mm. (Fig. 19). Female 16.5 mm. (Fig. 20) Southern South America ***A. carinicornis* Bates, 1873**
- Legs black to dark chestnut, with only basal half of metafemoral peduncle yellow; width of one inferior lobe of eyes/interocular distance 2.3; pronotum lacking patches of colorful pubescence, and entire surface closely and minutely punctured; base of prosternal process narrow, about one tenth width of coxal cavity; elytra Type 4, apex reaching middle of urosternite IV; widths of mesocoxal cavity/base of mesosternal process 3.0; abdomen subtype 1C (Fig. 84); abdominal process inclined 30° to abdomen; sides of soleate depression towards apex of urosternite V raised, but not tuberculate; hind leg Type 3, lengths of clava/peduncle 1.67. Male 14.2 mm. (Fig. 21). Bolivia ***A. amboroensis* Clarke, 2013**

Genus *Acyphoderes* (sen. strict.) species sample data

***Acyphoderes abdominalis* (Olivier, 1795)**

(Fig. 9, 10)

Necydalis abdominalis Olivier, 1795: (74) 8, pl. 1, fig. 5.

Acyphoderes abdominalis; Monné 2005: 453 (cat.).

Species Concept. Based on Olivier's original description and rather poor figure; and compared with material identified by Melzer and Martins in the MZUSP collection.

Measurements (mm). 9 males/7 females, total length, 21.9-27.6/15.9-25.4; length of prothorax, 4.30-4.60/3.10-4.60; width of prothorax, 3.85-4.50/3.10-5.80; length of elytra, 8.50-9.65/6.20-9.40; width at humeri, 4.30-4.75/3.20-4.80.

Material analyzed. BOLIVIA, Santa Cruz, Hotel Flora & Fauna, 5 km SSE of Buena Vista, 17°29'96"S/63°39'13"W, 430 m, on/flying to flowers of "Piton amarillo", male (specimen 1a) in cop with female (specimen 1b), Clarke & Zamalloa col. (RCSZ).

Material examined. BRAZIL, Amapa, Benj. Constant, Rio Javari, 1 male, XI.1961, and 1 female, J. Dirings col. (MZUSP); Ceara, Carquejo, 1 female, IX.1961, J. Dirings (MZUSP). BOLIVIA, Beni, Uyapi-Guanay, 1 female, X-XI.1992 (MZUSP). Santa Cruz, Hotel Flora & Fauna, 5 km SSE of Buena Vista, 17°29'96"S/63°39'13"W, 430 m, on/flying to flowers of "Bejuco hoja lanuda" 3 males, 21.IV.2005, Clarke & Zamalloa col. (RCSZ); on/flying to flowers of "Sama blanca", 1 female, 20XI.2005, Clarke & Zamalloa col. (RCSZ); on/flying to flowers of "Sapaimosi" 1 male, 30.XII.2005, Clarke & Zamalloa col. (RCSZ); on/flying to flowers of "Tutumillo espinoso", 1 male, 27.XI.2007, Clarke & Zamalloa col. (RCSZ); at MV/UV light, 1 male, 21.X.2005, Clarke & Zamalloa col. (RCSZ). Potrerillo del Guenda, 370 m, 1 male, 10-15.X.2007, J. Wappes & A. Cline col. (ACMT). GUIANA, No 14640, 1 female (MZUSP- Acession No 19.359). PANAMA, Panama, 2 km E Ipeti, 1 female, 7.V.1999, Wappes & Morris col. (ACMT).

***Acyphoderes amboroensis* Clarke, 2013**

(Fig. 21)

Acyphoderes amboroensis Clarke, 2013

Species Concept. Based on examination of the holotype.

Measurements (mm). 1 male, total length, 14.2; length of prothorax, 2.3; width of prothorax, 2.1; length of elytra, 7.2; width at humeri, 2.3.

Material analyzed. Holotype male, BOLIVIA, Santa Cruz, 18°08'S/63°44'W, 1,914m, Provincia Florida, Floripondio (east), flying to/on flowers of "Sotillo", 1 male, 26.XI.2009, Clarke & Zamalloa col. (MNKM).

***Acyphoderes auricapilla* Fisher, 1947**

(Fig. 18)

Acyphoderes auricapilla Fisher, 1947c: 3; Monné 2005: 454 (cat.).

Species Concept. Based on Fisher's original description, and examination of a female paratype of Tippmann's synonymous species *Acyphoderes azureopallescens* in the USNM collection.

Measurements (mm). 1 female, total length, 16.7; length of prothorax, 2.85; width of prothorax, 3.50; length of elytra, 8.70; width at humeri, 3.60.

Material analyzed. Paratype, PARAGUAY, Villarrica, 1 female, X.1932, Köller col., F. Tippmann, Wien det, Tippmann collection #213112 (USNM).

***Acyphoderes aurulenta* (Kirby, 1818)**

(Fig. 7, 8)

Necydalis aurulenta Kirby, 1818: 443.

Acyphoderes aurulenta; Monné 2005: 454 (cat.).

Species Concept. Based on many specimens in the MZSP collection (identified by Melzer, Martins, and others); these compared to a photograph of the holotype of *Acyphoderes sericinus* White, 1855 available on Bezark (2010).

Measurements (mm). 4 males/4 females, total length, 16.2-22.9/21.6-23.0; length of prothorax, 3.50-4.50/4.05-4.20; width of prothorax, 3.30-3.65/4.05-4.40; length of elytra, 7.70-10.00/8.65-10.30; width at humeri, 3.60-4.80/4.40-5.00.

Material analyzed. BRAZIL, Espirito Santo, Santa Teresa, 1 female, XI.1964, col. C. T. Elias, (MZUSP); São Paulo, São Paulo, 1 male, IV.1927, S. Bernardo, R. Spitz col. (MZUSP).

Material examined. BRAZIL, Espirito Santo, Corrego, Ità, 1 male and 1 female, XI.1956, W. Zikan col. (MZUSP); Goiás, Viannópolis, 1 male, III.1930, R. Spitz col. (MZUSP); Rio de Janeiro, Guaratiba, 1 female, 8.VII.1934, Aristoteles Silva col. (MZUSP). PUERTO RICO, San Juan, Mayaguez, 1 male, 14.III.1933, on Mango blossom, A. G. Harley col., #3819, (USNM); Rio Piedras, 1 female, 23.IV.1940, in flight, D. de Leon col., HOPKUS 23100-A-6 (USNM).

Comment. The Wappes, et al. (2006) record for this species in Bolivia is set aside by the author as it seems to be doubtful.

***Acyphoderes carinicornis* Bates, 1873**

(Fig. 19, 20)

Acyphoderes carinicornis Bates, 1873: 119.

Acyphoderes carinicornis var. *nigricans* Gounelle, 1911: 150; Monné 2005: 455 (cat.).

Species Concept. Based on Bates' original description; and compared with material identified by Melzer and Martins in the MZUSP collection, and holotype and syntype pictures available on Bezark (2010).

Measurements (mm). 12 males/14 females, total length, 12.8-15.3/14.1-16.5; length of prothorax, 2.30-2.80/2.60-3.10; width of prothorax, 2.05-2.50/2.10-3.00; length of elytra, 6.00-7.30/6.55-7.50; width at humeri, 2.35-2.80/2.45-3.20.

Material analyzed. BOLIVIA, Santa Cruz, Hotel Flora & Fauna, Chiquitano forest, 5 km SSE of Buena Vista, 17°29'96"S/63°39'13"W, 440 m, 1 female, 13.XI.2006, flying to/on flowers of "Sapaimosi", Clarke & Zamalloa col. (RCSZ); Yacuiba Hwy., Foothill Chaco Forest, 10 km S. Abapo, 18°59'S/63°14'W, ca. 600 m, on *Croton* sp. A flower, 1 male, 2.I.2008, Clarke & Zamalloa col. (RCSZ).

Material examined. ARGENTINA, Salta, Senillosa, 1 male, G.L. Harrington col. (USNM). BOLIVIA, Beni, Uyapi-Guanay, 2 females, X-XI.1992 (MZUSP). Santa Cruz, Santa Cruz-Yacuiba Hwy., Foothill Chaco Forest, 10 km S. Abapo, 18°59'S/63°14'W, 520 m, on *Croton* sp. A flower, 1 male and 2 females, 2.I.2008, Clarke & Zamalloa col. (RCSZ); 20 km S. Abapo, 19°00'S/63°14'W, 680 m, on *Croton* sp. A flower, 1 female, 17.XII.2007, Clarke & Zamalloa col. (RCSZ). Tarija, semi-dry Chaco Forest, 30 km N. Villamontes, 21°01'S/63°18'W, ca. 600 m, 1 male, 13.I.2008, Clarke & Zamalloa col. (RCSZ); foothill Chaco Forest, 6 km W. Villamontes, 21°17'S/63°28'W, 402 m, on *Croton* sp. A flower, 1 female, 2.I.2008, Clarke & Zamalloa col. (RCSZ); foothill Chaco Forest, 7 km W. Villamontes, 21°18'S/63°30'W, 450 m, on *Croton* sp. A flower, 2 males and 2 females, 14-16.XII.2007, 2 males and 1 female, 5.I.2008, 1 male, 8.I.2008, Clarke & Zamalloa col. (RCSZ); 48 km S. Villamontes, 21°40'S/63°38'W, 793 m, 5 km W. Santa Cruz-Yacuiba Hwy., Comunidad Sanandita-La Granja, visiting "Tipillo" flowers, 2 males, Clarke & Zamalloa col. (RCSZ). BRAZIL, Espirito Santo, Linhares, 1 female, X.1972, P. C. Elias col. (MZUSP); Goiás (Este), 1 male, No. 14645, Gounelle det. (MZUSP, Acc. No 19.366). São Paulo, Pres. Epifacio, Rio Paraná, 1 male and 1 female, X.1954, J. Lane col. (MZUSP); São Paulo, Ipiranga, 1 male, 30.VIII.1963, E. Dente col. (MZUSP). PERU, middle Rio Ucayali, 1 female, 25.III.1929, F6116, H. Bassler coll. ACC. #33591 (USNM).

***Acyphoderes crinita* (Klug, 1825)**

(Fig. 16)

Stenopterus crinitus Klug, 1825: 474, pl. 44, fig. 11.*Acyphoderes crinita*; Monné 2005: 455 (cat.).

Species Concept. Based on photographs of three syntypes, the first in the series a female (Accession 19915), the others a male and a female in the Humboldt Museum; and compared with material identified by Melzer and Martins in the MZUSP collection.

Measurements (mm). 3 males/5 females, total length, 18.2-20.2/18.1-27.4; length of prothorax, 3.50/3.25-3.50; width of prothorax, 3.25/3.40-3.50; length of elytra, 10.4/10.05-10.50; width at humeri, 3.90/3.95-4.20.

Material analyzed. ARGENTINA, Misiones, San Pedro, 1 female, XII.2007, col E. Abadie (RCSZ). BRAZIL, Paraná, Rolandia, 1 male, col Dirings (MZUSP).

Material examined. BRAZIL, Espirito Santo, Faz Jerusalem, 1 female 13.XII.1913, W. Zikán col. (MZUSP); Joinville, 1 female, col. Tippmann collection #213112 (USNM); Joinville, 1 male, X.1921, C. Schmitz? col. (MZUSP); Rio Grande do Sul, New Nuetemis?, 1 male, 1909, Bera? col. (MZUSP); Rio de Janeiro, Serra do Barata, Realengo, 1 female, 14.XI.1943, W. Zikán col. (MZUSP). São Paulo, São Paulo, 1 female (USNM).

***Acyphoderes hirtipes* (Klug, 1825)**

(Fig. 13-15)

Stenopterus hirtipes Klug, 1825: 473, pl. 44, fig. 9.*Acyphoderes hirtipes*, Monné 2005: 456 (cat.).

Species Concept. Based on photographs of four syntypes, the first in the series male (Accession 19917), the others females in the Humboldt Museum; and a male specimen in the MZSP collection identified by Melzer.

Measurements (mm). 4 males/6 females, total length, 13.4-22.1/16.6-24.8; length of prothorax, 2.50-4.10/3.10-4.20; width of prothorax, 2.30-3.20/2.85-3.90; length of elytra, 6.70-10.40/8.30-11.80; width at humeri, 2.50-3.80/3.20-4.50.

Material analyzed. BRAZIL, Espirito Santo, Santa Teresa 1 male, XII.1964, col. C.T. Elias (MZUSP); 1 female, 2.XI.1964, P. Sooretama, Werner, Oliviera & Seabra leg. (EMEC 202,805); Santa Catarina, Corupa (Hansa Humboldt), 1 female, XI.1945, A. Maller col. (USNM).

Material examined. BRAZIL, Bahia, 1 female, 1933, Wickham col. (USNM); Espirito Santo, Rio Guandú, 1 female, 14.XI.1920, F. Hoffmann col. (MZUSP); Rio de Janeiro, Rio de Janeiro, 1 female, Acc. No. 2966 (CMNH); Santa Catarina, Joinville, 1 male, I.1922, C. Schmitz col. (MZUSP); Santa Teresa, 1 male XII.1964 and 1 female X.1964, C. T. Elias col. (MZUSP); P. Sooretama, 1 male, 2.XI.1964, Werner, Oliviera & Seabra leg. (EMEC 202,804).

Comment. This species seems to be a more variable in color than any other in the genus. Some specimens from the northern part of its range (Bahia, Espirito Santo, Rio de Janeiro and Sao Paulo) are much darker in color (pronotum, elytra, and abdomen black), others are similar to those from the southern part of its range (Santa Catarina) which are paler (pronotum browner, elytra and abdomen pale chestnut). Color of the metafemora also varies from pale in color (testaceous peduncle, pale chestnut clava) to dark in color (yellowish peduncle, rufous to black clava), in some the yellow of the metafemoral peduncle and the rufous of the clava are separated by a black ring, as recorded by Fisher (1930) when he described *A. rufofemorata* from Bahia (see Fig 15); and metatibial color ranges from almost entirely yellow to

almost entirely black. In female specimens ranging from Espirito Santo to Santa Catarina there is considerable variation in the following characters. Color of pubescence (golden to rufous on body parts; and metatibial brushes from entirely black to entirely rufous); length of elytra (apex reaching from middle of urosternite III to middle of IV); width of base of prosternal process (distinctly wider in one specimen from Santa Catarina than those from Rio de Janeiro and Espirito Santo; and in other characters not analyzed.

***Acyphoderes rubrohirsutotibialis* Tippmann, 1953**

(Fig. 17)

Acyphoderes rubrohirsutotibialis Tippmann, 1953a: 210, pl. 16, fig. 21.; Monné 2005: 457 (cat.).

Species Concept. Based on Tippmann's original description; and compared with a female specimen in the USNM's Tippmann collection.

Measurements (mm). 2 females, total length, 21.0-24.8; length of prothorax, 3.6-4.40; width of prothorax, 3.6-4.40; length of elytra, 11.1-12.15; width at humeri, 4.1-4.75.

Material analyzed. PERU, S'icuanne, 1 female, F. Tippmann, Wien col., Tippmann collection #213112 (USNM).

Material examined. BOLIVIA, Beni, Uyapi-Guanay, 1 female X-XI.1992 (MZUSP).

***Bromiades* Thomson, 1864**

(Fig. 11, 12)

Bromiades Thomson, 1864: 165, 417.; Monné 2005: 458 (cat.).

Type species. *Bromiades brachyptera* (Chevrolat in Guérin-Meneville, 1838).

Diagnosis. Prothorax Type 1A in *Bromiades* (only shared with, and not sufficiently distinctive to separate it from *Acyphoderes* Group 1 species). Elytra Type 1, only shared with *Brachyphoderes* (see under this genus for comparative diagnosis), and subtype 1A not found in any of the other genera included in this revision. Abdomen subtype 2A in *Bromiades* (shared with many other genera), but urosternite V rather distinctive (see below). Hind legs subtype 1A in *Bromiades* (only shared with *Acyphoderes* Group 1 species, see below).

The monotypic genus *Bromiades* comes closest to *Acyphoderes* Group 1 species (they even share tuberculate prosterna), and of these closest to and, indeed, with few differences to *A. abdominalis*, among which the following are the most notable. Aedeagus with subtype 2C tegmen, robust, compact and weakly divergent (in *A. abdominalis* aedeagus with Type 2A tegmen, moderately robust, not at all compact, and very divergent); prothorax less rounded, as in *A. hirtipes* somewhat trapezoidal (in *A. abdominalis* prothorax discoid); rostrum shorter, 2.9-3.0 wider than long (in *A. abdominalis* 2.6-2.8 wider than long); in male antennae longer, reaching middle of urosternite I, and antennal segments from scape to antennomere VII long and narrow basally (in *A. abdominalis* antennae only reaches apex of metepisternum, and antennal segments I-VII more robust); urosternite V in male trapezoidal, wider at base than apex of IV, and slightly bisinuate at apex (in *A. abdominalis* urosternite V is almost cylindrical, as wide at base as apex of IV, and apical margin broadly and abruptly projecting at middle), and in female urosternite V somewhat flared towards apex (in *A. abdominalis* not flared); hind legs in both sexes 2.0 longer than front legs, and metafemoral claws shorter, lengths of claw/peduncle in male 1.4, in female 1.0 (in both sexes of *A. abdominalis* hind leg 1.7-1.8 longer than front leg, and claw 1.8 longer than peduncle in male, in female 1.6 longer). Aedeagus with subtype 2C tegmen, only shared with *Acyderophes*, but the lateral lobes in the latter are less robust, and the apical paddles narrower and more abrupt than they are in *Bromiades*.

Further differences are as follows. In *Bromiades* prothorax subtype 1A (in *Acyderophes* Type 3B); antennal scape longer than antennomere III (in *Acyderophes* scape distinctly shorter than III); base of

mesocoxal process nearly as wide as coxal cavity (in *Acyderophes* one third width of coxal cavity); hind leg subtype 1A, with clave much longer than peduncle (in *Acyderophes* subtype 3B, with clave and peduncle of equal length).

Male genitalia. Aedeagus Type 2 (Fig. 117). Tegmen subtype 2c, lateral lobes length/width 3.8. Median lobe Type 1, length 1.9 mm.

Genus *Bromiades* species sample data

Bromiades brachyptera (Chevrolat, 1838)

(Fig. 11, 12)

Odontocera brachyptera Chevrolat in Guérin-Méneville, 1838: 285.

Bromiades brachyptera; Monné 2005: 458 (cat.).

Species Concept. Based on the comparison of material in the USNM, ACMT and MZUSP collections with the holotype picture of Bezark (2010).

Measurements (mm). 3 males/1 female, total length, 17.4-19.9/18.8; length forebody/ length of abdomen 0.93; length of prothorax, 3.15-3.40/3.40; width of prothorax, 2.90-3.25/3.25; length of elytra, 4.15-4.20/4.70; width at humeri, 3.20-3.65/3.60; width mesocoxal cavity/width mesosternal process 0.81.

Material analyzed. COSTA RICA, Guan, 3-6 km NW Canas, La Pacifica, 1 male and 1 female, 2-7.VI.1980, J. Wappes col. (ACMT).

Material examined. CUBA, Rancho Mundito, 1 male, S. Rangel col., F. Zayas col. (MZUSP). PANAMA, Canal Zone, Madden Forest (9° 05'N/79° 37W), 1 male, 21.VII.1971, W. Bivin col. (USNM).

Discussion. Records for this species in Cuba, even though this is the type locality, may represent another instance of a species introduced into a Caribbean island.

Acutiphoderes gen. nov.

(Fig. 26, 27)

Type species. *Acyphoderes odyneroides* White, 1855, here designated by monotypy.

Etymology. *Acutiphoderes* (from the Latin “acus”, meaning a needle, with reference to its unique elytral apex); and “deres” (to recall its relationship to *Acyphoderes*). Gender female.

Diagnosis. Prothorax subtype 4A in *Acutiphoderes* (shared with *Ameriphoderes* Group 1 species), but in *Acutiphoderes* basal constriction mostly evanescent, detectable at sides, towards middle almost smoothly inclined with longitudinal convexity of pronotum, otherwise nearest to female *Ameriphoderes acutipennis* in appearance (in *Ameriphoderes* Group 1 species basal constriction is narrow, but deep and well demarcated throughout). Elytra subtype 3C unique to *Acutiphoderes*, with its sharply acuminate apex. Abdomen subtype 1C only found in *Acutiphoderes*. Hind leg subtype 1B in *Acutiphoderes* (only shared with *Ameriphoderes amoena* and *A. suavis*), but in *Acutiphoderes* only 1.8 longer than front leg (in the two species of *Ameriphoderes* 2.4-2.5 longer than front leg). Aedeagus with subtype 3e tegmen (only shared with *Ameriphoderes bayanicus*) strongly setose, with broad, divergent lateral lobes; in *Acutiphoderes* the latter gradually tapering to weakly rounded apex (in *A. bayanicus* the apices subacuminate), and apex of median lobe rather rounded (in *A. bayanicus* apex spatulate, unique among the genera considered in this revision).

And in the field easily separated from other acyphoderines by the vespid-like yellow stripe on head, running from base of clypeus to antennal tubercles.

Description of genus. Medium to large sized (17.0-18.9 mm); moderately narrow, compact, species (generally similar to *Acyphoderes* group 2 species); forebody 0.97-1.03 length of abdomen.

Head with eyes narrower than width of prothorax (width prothorax/head 1.06-1.12). Rostrum moderately long and wide (width/length 2.35-2.47). Maxillary palps short; apical palpomeres cylindrical, and truncate at apex; galea rather short. Labrum rather small and transverse, about 2.5 times wider than long; front margin emarginate and declivous; sides rounded; disc with two groups of small punctures. Clypeus flat and slightly inclined to labrum, at apex narrower than labrum, and hardly wider at base; nearly glabrous and almost impunctate; and separated from frons by strong transverse depression. Frontal suture well demarcated, bisecting yellow, impunctate area on frons into two narrow bands, and falling just short of apex of frons.

Inferior lobes of eyes in male unusually large, very slightly longer than wide, their front margins strongly divergent, rendering each lobe more ovate than round; and in male subcontiguous, in female wide apart, width of one lobe/interocular distance 8.0 in male, in female 1.36. Distal margins of inferior lobes lying adjacent to gena; proximal margins weakly oblique.

Superior lobes moderately small, and weakly narrowed laterally (by one-sixth their mesal width); in male rather narrowly separated (slightly closer than any other South American species included in this revision, including females), the distance between them/width of one lobe 1.8, in female 2.5; with relatively large ommatidia, arranged in approximately 17 rows.

Mentum-submentum represented by well demarcated, transverse area, about 2.0 wider than long in male, 1.5 in female; the surface multicarinate (the carinas confused, with small elliptical areas), and punctured (the punctures small and subalveolate, and usually situated in these ellipsoids).

Antennal tubercles moderately small, rounded, and moderately prominent, the distance between them/width of scape 2.0-2.2.

Antennae short, reaching apex of metepisternum in male, basal third of metepisternum in female (shorter than any other species included in this revision); subserrate, antennomeres IV-X similar in appearance and width (viewed dorsally none of them much wider than apex of II). Scape pyriform in male, subpyriform in female, rather short and thick, slightly longer than III (only shared by Group 1 species of *Acyphoderes* and *Bromiades*); III filiform, but rather robust and short (nevertheless distinctly longer than any other antennomere); IV subcylindrical, two-thirds length of III, equal to V in male, slightly longer in female; V slightly elongate and trapezoidal; VI-X incrementally slightly shorter, more quadrate, and less serrate (the serrations not strong and clipped at apex); XI longer than VI-X (unique among the species included in this revision), in male with abruptly narrower apical cone (giving it a subserrate appearance).

Prothorax Type 4A, weakly elongate (length/width 1.09-1.11); sides straight and moderately converging from middle to apex, sinuate to basal constriction (lateral callus slightly overhanging sides to disrupt lateral profile); widest well before middle, prothoracic quotient in male 2.52 in male, in female 3.0. Front margin (f) about as wide as hind margin (h), f/h 1.00-1.05. Surface of pronotum convex, irregular; median callus rather wide and more projecting than lateral calli; all the calli slightly glistening and sculpted by larger punctures than those on rest of pronotum; apical constriction weak, basal constriction mostly evanescent (detectable at sides, towards middle smoothly inclined with longitudinal convexity of pronotum).

Prosternum strongly declivous across apical third in male (less so in female), and well inclined to prosternal process. Prosternal process arched; base of process short in male, and laminate, about 14 times narrower than width of procoxal cavity in male, 19 times in female; apex long and trapezoidal (declivous across middle, to leave apex planar with mesosternal surface). Procoxal cavities plugged at sides, closed behind.

Mesosternum subabrupt and very deep; base of mesosternal process strongly depressed at midline, the sides raised, rather wide, and half the width of mesocoxal cavity; apex of process bilobed (the lobes weakly divergent and separated by deep, wide, U-shaped excavation), each lobe narrow and rounded at apex. Mesocoxal cavity widely open to epimeron.

Length of mesosternum/metasternum 0.86-0.97.

Elytra unique subtype 3C, apex acuminate and terminating with distinct spine; rather long and broad at humeri, length/width 2.81 in female, 3.28 in male (the quotient the highest of any South American species included in this revision), but just behind humeri abruptly and strongly contracted to middle,

then steadily narrowing to apex; apex reaching middle of urostrnite IV in male, middle of III in female. Humeri rounded, but projecting, and almost flat. Each elytron completely flat for apical two-thirds; with long translucent panel extending almost to apex, well demarcated laterally, but basally almost lost in pale color of elytral base.

Metathorax broad; hemispherical (slightly more so as widest point behind basal margin), the sides strongly rounded from base to middle of apex. Metasternum strongly tumid, not at all flattened on disc, but still remain less projecting than mesocoxae; longitudinal suture moderately shallow, wide for apical half, narrow towards, and not reaching, base. Metepisternum relatively strongly convex, very broadly cuneate, lateral margin rounded.

Abdomen unique, and almost the same in both sexes, subtype 1C (Fig. 67), relatively short and broad (widest at apex III/base IV), base broadly petiolate (subsessile); urosternite II not conical. In male urosternite V transverse, trapezoidal; base as wide as apex of IV; apical margin truncate; and sides projecting and acute when viewed laterally; soleate depression weak, represented by small, U-shaped flattening (towards apex between slightly raised sides), suggestive of a faint horse shoe print. In female urosternite V much narrower than other segments. Male and female abdominal process strongly inclined, *ca.* 90° (but in male surface of urosternite I raised towards base and coalescing with base of process); its apex with relatively broad, recurved extension intimately inserted between metacoxae.

Apical tergite moderately elongate (but apex not overlapping apex of urosternite V), trapezoidal, convex, and slightly rounded at apex in male, emarginate in female.

Legs. Ratio lengths front/middle/hind leg 1.0:1.2-1.3:1.8.

Front and middle legs rather long (in male body length/length of legs 2.6 and 2.2, respectively, in female 2.7 and 2.1); and strongly pedunculate-clavate.

Front leg. Profemoral clave moderately broad and abrupt (when viewed from the side), slightly tumid mesally (when viewed from above); protibia slightly longer than profemur in male, shorter than profemur in female; rather abruptly widening towards apex; apico-lateral margin oblique.

Middle leg. Length of mesofemur/width mesofemoral clave 2.6 in male, 3.5 in female; clave not flattened mesally (when viewed from above), broad and abrupt (when viewed from the side). Mesofemur 1.08 longer than metatibia in male, of equal length in female. Mesotibia moderately slender, gradually, and more strongly widened to apex in male, in female widened and parallel-sided for apical two-thirds.

Hind leg subtype 1B (Fig. 102). Relatively short, body length 1.5 longer than leg; metafemoral clave strongly narrowed at apex; the latter reaching middle of urosternite III in male, reaching apical third of III in female; peduncle short (length clave/peduncle 1.7 in female, 2.1 in male). Metatibia bisinuate (when viewed from above), slightly longer than metafemora, moderately robust, and hardly thickened towards apex; and rather sparsely pubescent, not much denser towards apex. Metatarsus moderately long, more than half length of metatibia. Metatarsomere I almost cylindrical, moderately robust and rather short, in male, I/II+III 1.14, in female 1.10; II elongate, trapezoidal and moderately broad; III with long and moderately large lobes, weakly rounded at sides, and somewhat divergent.

Male genitalia. Aedeagus Type 3 (Fig. 139). Tegmen subtype 3, lateral lobes short (length/width 3.8); apex weakly acuminate. Median lobe Type 2, broad and short (length 2.0 mm).

Surface ornamentation/pubescence. On upper side notably dense, recumbent, pubescence almost absent (head glabrous); but on pronotum, elongate fascia furnishing all the lower areas between calli, and across the basal quarter, with rather feathery-looking, brassy pubescence. Elytra almost glabrous; but some nearly undetectable yellow hairs between humeri; and translucent panels with irregular rows of short, erect, black hairs.

Antennal scape and antennomeres III and IV with fringe of black setae on meso-ventral surface; pedicel, IV and V with 2-4 longer, thicker setae at apex; VI-VIII with single, incrementally shorter, seta at apex.

On underside notable pubescence limited to all mesosterna, basal half of metasternum, and all of metepisternum (dense, recumbent, fine, silver hairs). Less notable, and less dense, short, hoary pubescence in transverse rectangle covering basal two-thirds of prosternum (the apical third contrastingly glabrous and sulcate). Abdomen almost uniformly clothed with, rather dense, semi-recumbent, long, blackish hairs (only urosternite I and midline partially glabrous); and apical margin of I-IV fimbriate,

the hairs dense, short, and white as snow. In female underside pubescence is much the same as in male, but somewhat reduced in density and extent of fascia.

Legs clothed with fine, rather stiff-looking, short, white hairs; hardly denser on both of the following, but longer on metatibiae, shorter on metatarsomeres.

Surface ornamentation/puncturation. Vertex of head, antennal scape, and pronotum entirely and densely, rugosely punctured, the punctures rather small (largest on scape and pronotal calli, smallest on inter-calli), alveolate, deep and confluent. Elytra generally somewhat sparsely punctate, less so on humeri and between them; a single row of very small punctures adjacent to sutural border; epipleur with 2-4 rows of small, but deep and confluent, punctures; translucent panels with irregular rows of very small, setose punctures.

Puncturation on underside partially hidden by pubescence. Prosternum with basal two-thirds with dense mix of larger subalveolate punctures, and simple small ones, embedded in a matrix of micropunctures, to leave the surface rugose. Mesosternum with indefinite, but generally micro-reticulate. Metasternum, below with dense pubescence large and smaller punctures embedded in matrix of micropunctures; on glabrous areas the surface ornately sculpted, with tracery of slender, arced carinas, and rows of large, deep, semi-alveolate punctures arcing towards midline; the latter occupied by large oval patch of further, less dense, carinas and punctures. Metepisternum with pubescent areas as on metasternum. Abdomen almost uniformly and densely punctate (sparser on urosternite I, denser on III-V), with moderately large, shallow, beveled punctures lying in a matrix of reticulate interstices.

Genus *Acutiphoderes* species sample data

***Acutiphoderes odyneroides* (White, 1855) comb. nov.**

(Fig. 26, 27)

Acyphoderes odyneroides White, 1855: 196, pl. 5, fig. 3.; Monné 2005: 456 (cat.).

Species Concept. Based on the comparison of material in the USNM and MZUSP collections with the holotype picture of Bezark (2010).

Measurements (mm). 3 males/1 female, total length, 17.0-18.1/18.9; length of prothorax, 2.90-3.25/3.00; width of prothorax, 2.50-2.85/2.75; length of elytra, 8.10-9.85/9.00; width at humeri, 2.85-3.00/3.20.

Material analyzed. BRAZIL, Para, Tucurul, Rio Tocantins, Bagagem, 1 female, 2.VII.1984, A. L. Nunes col. (MZUSP). PERU, Tarapoto, 1 male, Geitner col., Tippmann collection #213112 (USNM).

Material examined. BRAZIL, Para, Tucurul, Rio Tocantins, Bagagem, 1 male, 2.VII.1984, A. L. Nunes col. (MZUSP). PERU, Pucallpa, Ucayali, 1 male, 8.V.1952, F. Tippmann, Wien col. Tippmann collection #213112 (USNM).

***Anomaloderes* gen. nov.**

(Fig. 25)

Type species. *Acyphoderes itaiuba* Martins and Galileo, 2004, here designated by monotypy.

Etymology. This genus, very similar to, and yet so different from species of *Acyphoderes*, is named in recognition of this paradox; “anomalous” (from the Greek “anomalus”, meaning uneven, inconsistent), and “deres” (to recall its relationship to *Acyphoderes*). Gender female.

Diagnosis. Prothorax subtype 1B (shared with *Brachyphoderes* and *Acyphoderes* Group 3 species), but in *Anomaloderes* more cylindrical (in the others obovate). Elytra subtype 3B (shared with *Acyderophes*, and *Acyphoderes* Groups 2 and 3 species), but in *Anomaloderes* humeri hiding mesepimera (in the others

exposing mesepimera). Abdomen subtype 2A (shared with *Acyderophes*, *Acyphoderes*, *Ameriphoderes amoena*, *Amerispheca* and *Bromiades*), but in *Anomaloderes* urosternite IV unique, with weak soleate depression, delimited by weakly raised, rounded sides; and abdominal process vertical to abdomen (in the others abdominal process with 0-45° slope). Hind leg subtype 3Ba, metatibiae with long-haired dense brush (shared with *Acyphoderes hirtipes* and *Forficuladeres*), but only in *Anomaloderes* and some female *Acyphoderes hirtipes* metatibiae with rufous brush; and in *Anomaloderes* metatarsomere I shorter than II+III (in *Acyphoderes hirtipes* metatarsomere I equal to, or slightly longer than II+III).

Aedeagus with Type 3d tegmen, in *Anomaloderes* lateral lobes rather broad, length/width 3.4 (only approached by *Acutiphoderes* and *Bromiades*, length/width 3.8; and both genera have different subtypes of tegmen, 3e and 2c respectively).

Description of genus (female not known). Medium sized (17.9 mm), moderately robust species; forebody 0.92 length of abdomen.

Head with eyes distinctly narrower than width of prothorax (width prothorax/head 1.21). Rostrum 2.50 wider than long. Maxillary palps short, apical palpomeres cylindrical with truncate apices; galea moderately long and narrow. Labrum moderately large, not strongly transverse, slightly more than two times wider than long; front margin emarginate, weakly declivous; sides rounded; disc with groups of small punctures. Clypeus flat, slightly inclined to labrum, and hardly wider; with group of shallow punctures near middle of apex. Frontal suture short well demarcated, relatively wide and deep, starting from near antennal tubercles, ending in rounded fossa slightly anterior to front margin of inferior lobes.

Inferior lobes of eyes large, round; rather far apart (width of one lobe 2.5 interocular distance); their distal margins lying between frons and gena, proximal margins weakly oblique.

Superior lobes (partially hidden) rather small and narrow, and narrowed laterally (to half their mesal width); the distance between them/their own width *ca.* 2.5; with relatively large ommatidia, arranged in approximately 12 rows.

Mentum-submentum represented by transverse rectangle, two times wider than long; multicarinate (the carinas confused with small elliptical areas), and sparsely punctured (the punctures small and alveolate, and usually situated in these ellipsoids).

Antennal tubercles relatively large, rounded, somewhat prominent; and closer together than in any acyphoderine included in this revision, the distance between them/width of scape 1.78.

Antennae short, reaching metacoxae; subcrassate; scape subcylindrical (with unusually wide base); antennomere III filiform (but moderately robust), 1.30 longer than scape; IV subcylindrical, half length of III, slightly shorter than V; V subserrate, slightly shorter than VI; VI-X incrementally shorter, widened at apex and strongly serrate (the outer angle weakly clipped); XI much longer than X, with large narrow cone.

Prothorax Type 1B. Subcylindrical; moderately elongate (length/width 1.14); rather flat-looking; sides almost regularly rounded from apex to basal constriction, widest behind middle (prothoracic quotient 1.93). Apical margin 0.94 width of basal margin. Apical constriction broad mesally, weak laterally; basal constriction broad and abrupt, and somewhat overhung by base of lateral calli. Surface of pronotum with a pair of broad calli forming an arc to either side of callus at midline, this hardly traceable through dense, large punctures, and separated by rather broad, shallow sulcus.

Prosternum declivous across middle, rather strongly inclined to prosternal process, flat, with elliptical callus at side of apical half. Prosternal process distinctly arched; base of process laminate, *ca.* 20 times narrower than width of procoxal cavity; apex large, trapezoidal, declivous adjacent to apical margin, leaving it planar with mesosternum. Procoxal cavities plugged at sides, and closed behind.

Mesosternum abrupt and deep; base of mesosternal process moderately wide, 3.0 narrower than width of mesocoxal cavity; apex of process bilobed, the lobes divergent, each one rather broad and rounded at apex.

Length of mesosternum/metasternum 0.79.

Elytra subtype 3B. Moderately long, 2.70 longer than width of humeri, reaching apical third of urosternite III. Each elytron regularly narrowed from behind humeri to subacuminate apex; apex unarmed. Humeri just hiding mesepimer, not rounded, moderately prominent, and not projecting. Each elytron with well demarcated translucent panel (each panel commencing from near base of elytron to near apex).

Metathorax broad; sides rounded from base to middle of apex. Metasternum tumid, but broadly flattened on disc (and slightly less prominent than mesocoxae); longitudinal suture moderately deep and long. Metepisternum broadly cuneate.

Abdomen subtype 2A (Fig. 71). Convex; moderately broad (widest near apex of urosternite III), narrowed to apex; urosternites I-III parallel-sided (but slightly annulated); urosternite I slightly elongate; II-IV transverse, about equal in length. Urosternite IV unique, with weak soleate depression, delimited by weakly raised, rounded sides. Urosternite V trapezoidal, with large (occupying most of surface), shallow soleate depression, but delimited by narrow, strongly raised sides, the latter increasingly projecting towards truncate apex (the latter, when viewed laterally, strongly projecting and broadly rounded towards truncate apex). Abdominal process vertical (90°), or almost so; rather short and broad, apex blunt and recurved; and almost intimately inserted between metacoxae.

Apical tergite cylindrical, moderately long, broad and convex; apical margin rounded, hardly passing apex of urosternite V.

Legs. Ratio lengths front/middle/hind leg 1.0:1.2:2.1.

Front and middle legs short (body length/length of legs 2.5 and 2.1 respectively); and rather strongly pedunculate-clavate.

Front leg. Profemoral clava moderately broad and abrupt (when viewed from the side), and tumid mesally (when viewed from above). Protibia equal in length to profemur; moderately narrow at base, gradually widening to apex; apico-lateral margin oblique.

Middle leg. Length of mesofemur/width mesofemoral clava 3.16; clava robust, and rather strongly widened for apical third. Mesofemur moderately long, 1.39 longer than length of mesotibia. Mesotibia robust and strongly widened for apical two-thirds.

Hind leg subtype 3Ba (Fig. 105). Moderately long (body length 1.2 longer than legs); femoral clava with strongly narrowed apex, and rather more abrupt than in most species included in this revision; peduncle narrow, flattened, and long (length clava/peduncle 0.98); apex of metafemora reaching base of urosternite IV. Metatibiae almost straight (when viewed from above), shorter than metafemora, somewhat robust, gradually, and only slightly, widening to apex; and apical two-thirds with moderately long-haired and recumbent, dense, rufous colored brush. Metatarsus short, distinctly less than half length of metatibia; metatarsomere I subcylindrical, and moderately short, I/II+III 0.91; II pediculate and trap-ezoidal; III moderately long, the lobes slightly rounded at sides, and weakly divergent.

Male genitalia. Aedeagus Type 3 (Fig. 136). Tegmen subtype 3d, lateral lobes short and broad (length/width 3.4), and broadly rounded at apex, not narrowed or divergent towards apex. Median lobe Type 2, moderately arced; rather broad and short, length of median lobe 2.3 mm (1.7 longer than lateral lobes).

Surface ornamentation/pubescence. Notable pubescence on upper side restricted to two pairs of arced lines between eyes, and apical and basal constrictions of pronotum (the hairs recumbent, short, and brassy in color).

Antennal scape and antennomere III with dense, short setae mesally; pedicel and antennomeres IV-VI with small group of long, black setae, on V and VI confined to apex.

Legs not atypical, but the following notable. Profemoral clava weakly setose; mesofemoral clava densely clothed with narrow, blackish setae; and metafemoral clava and metatarsus with short, sparse, rufous-orange setae.

On underside similar pubescence (moderately dense, untidy, short, and semi-erect hairs) found on basal half of prosternum (in transverse patch), mesepimeron and adjacent margin of mesosternum, basal half and midline of metasternum (the hairs brassy in color), apex of metepisternum; and sides of urosternites I-III with denser, longer and more recumbent hairs. Longer, semi-erect, moderately sparse hairs, of the same brassy color, clothing apical half of metasternum.

Surface ornamentation/puncturation. Characteristic puncturation, only found on upper side, as follows, pronotum with characteristic mix of large (diameter 0.1 mm) and moderately large, deep, round, simple or alveolate punctures (the largest grouped around pronotal disc, partially obliterating the calli,

more so towards basal half). Similar puncturation on elytra, the largest on humeri, the smallest and densest on epipleura (but translucent panels completely impunctate).

Simple punctures found on the following, mesosternum (micropunctate, except for narrow line of large punctures adjacent to prothorax); basal half of metasternum (larger punctures embedded in matrix of small ones and micro-punctures); apical half of metasternum moderately densely punctate (the punctures rather shallow and small, and beveled); metepisternum (few, somewhat small, sparse punctures, except for small group of dense ones at base); on abdomen (shallow, small beveled punctures, sparser towards base and midline, becoming very dense and mixed with micropunctures towards apex).

Genus *Anomaloderes* species sample data

Anomaloderes itaiuba (Martins and Galileo, 2004) comb. nov.

(Fig. 25)

Acyphoderes itaiuba Martins and Galileo, 2004a: 230, fig. 3.; Monné 2005: 456 (cat.).

Species Concept. Based on examination of two paratypes in the MZUSP collection.

Measurements (mm). 2 males, total length, 17.9-19.7; length of prothorax, 3.10-3.30; width of prothorax, 2.80-2.90; length of elytra, 9.05-10.8; width at humeri, 3.10-3.35.

Material analyzed. Paratype, VENEZUELA, Amazonas, Surumoni, on flowers of *Matayba guianensis*, 1 male, 26.IX.1997, Morawetz col. (MZUSP).

Material examined. 1 male, as above.

Acyderophes gen. nov.

(Fig. 22, 23)

Type species. *Acyphoderes fulgida* Chemsak and Linsley, 1979, here designated by monotypy.

Etymology. The name of this genus, *Acyderophes*, is an anagram of *Acyphoderes* in recognition of its close relationship to this genus. Genus female.

Diagnosis. Prothorax Type 2 (only shared with *Forficuladeres*), in *Acyderophes* the bands of small punctures on depressed areas of pronotum narrow (in *Forficuladeres* these bands broad). Elytra subtype 3B (shared with *Anomaloderes* and *Acyphoderes* Groups 2 and 3 species), but in *Acyderophes* elytra do not hide mesepimera (in *Anomaloderes* elytra hide mesepimera); and in *Acyderophes* elytra subfissate for apical half (in *Anomaloderes* and in *Acyphoderes* Groups 2 and 3 species subfissate for apical two-thirds). Abdomen subtype 2A (shared with *Anomaloderes*, *Acyphoderes*, *Ameriphoderes amoena*, *Amerispheca* and *Bromiades*), but in male *Acyderophes* segments I-IV with characteristic narrow, smooth depression at midline (in the others such depressions absent or casual); and in *Acyderophes* this depression on segment IV partially overlaid by secondary oval depression (somewhat reminiscent of the soleate depression on this segment in *Anomaloderes*). Hind leg subtype 3Ba (shared with *Acyphoderes hirtipes*, *Anomaloderes*, and *Forficuladeres*), but in *Acyderophes*, some *A. hirtipes* and *Forficuladeres* metatibial brush blackish (in other *A. hirtipes* and *Anomaloderes* brush rufous); and in Costa Rica paratypes of *Acyderophes fulgida* and *Forficuladeres* metatarsomere I shorter than II+III (in *A. hirtipes* I equal to, or longer than II+III), in *Acyderophes* metafemora reach apex of urosternite IV (in *Forficuladeres* reach base of IV).

Aedeagus with Type 2c tegmen in Costa Rica paratype of *Acyderophes fulgida* (only shared by *Bromiades*, see under this genus for diagnostic). Mexican specimens from Vera Cruz and Colima of *A. fulgida* have Type 2d tegmen (shared by *Acyphoderes* Group 3 species).

Description of genus (based on Costa Rican paratypes only). Medium sized (16.1-17.5 mm), elegant species; forebody 0.99 length of abdomen.

Head with eyes distinctly narrower than width of prothorax (width prothorax/head 1.24-1.30). Rostrum long, 2.3-2.5 wider than long (unusually, shorter in female). Maxillary palps short, apical palpomeres cylindrical with truncate apices; galea long and narrow. Labrum large, not strongly transverse, slightly more than two times wider than long; front margin emarginate, hardly declivous; sides weakly rounded; disc with group of small punctures. Clypeus flat, slightly inclined to labrum, and hardly wider; nearly impunctate. In female frontal suture short (as sulcus or raised line), just traceable between dense punctures, not reaching anterior margin of inferior lobes.

Inferior lobes of eyes large, round (in female flatter and smaller); subcontiguous to rather far apart (in male width of one lobe 4.75 interocular distance, in female 1.45 wider); their distal margins lying on frons in male, on gena in female, proximal margins weakly oblique.

Superior lobes moderately large and wide, and moderately narrowed laterally (to half their mesal width); the distance between them/their own width in male 1.7, in female 2.0; with very fine ommatidia, arranged in approximately 20 rows.

Mentum-submentum represented by quadrate area in male, transverse in female; multicarinate (the carinas confused with small elliptical areas), and sparsely punctured (the punctures small and alveolate, and usually situated in these ellipsoids).

Antennal tubercles rather small, rounded, somewhat prominent; the distance between them/width of scape in male 2.57, in female 2.86.

Antennae moderately short, reaching basal third of urosternite I in male, in female reaching base of I; subcrassate; scape subcylindrical; antennomere III filiform, 1.23-1.42 longer than scape; IV and V subcylindrical; IV two-thirds length of III, shorter than V; V slightly longer than VI; VI-X incrementally shorter, widened at apex and serrate; XI with moderately large cone, longer than X in male, shorter than X in female.

Prothorax Type 2A. In both sexes obovate; in male distinctly elongate (length/width 1.19), in female subquadrate (length/width 1.11); front margin (f) slightly narrower than hind margin (h), in male f/h 0.95, in female 0.98; moderately convex; apical constriction weak (more so in male), basal constriction rather narrow and deep; both constrictions planar with pronotal disc at midline; sides regularly rounded from apex to basal constriction, widest well before middle (in male prothoracic quotient 3.10, in female 2.38). Surface of pronotum with pair of broad lateral calli, these separated by rather narrow, shallow sulcus from broad median callus.

Prosternum not declivous, inclined to prosternal process, flat in male, weakly tumid in female. Prosternal process weakly arched in male, not in female; base of process narrow, in male 7.3 times narrower than width of procoxal cavity, in female 5.3 times narrower; apex large, trapezoidal, declivous across apical third, leaving it almost vertical. Procoxal cavities plugged at sides, and closed behind.

Mesosternum abrupt and deep; base of mesosternal process moderately wide, 2.3-3.3 narrower than width of mesocoxal cavity; apex of process bilobed, the lobes hardly divergent, each one rather broad and rounded at apex.

Length of mesosternum/metasternum 0.65-0.71.

Elytra subtype 3B. Subfissate for apical half; moderately long, in male 2.65 longer than width of humeri, in female 2.70 longer; reaching from base to middle of urosternite III. Each elytron regularly narrowed from humeri to subacuminate apex; apex unarmed. Humeri hardly rounded and slightly projecting. Each elytron with well demarcated translucent panel.

Metathorax broad; sides weakly rounded and converging towards apex; apical margin moderately oblique. Metasternum tumid, but broadly flattened on disc (and less prominent than mesocoxae); longitudinal suture moderately shallow (especially in female), but long. Metepisternum cuneate.

Male abdomen subtype 2A (Fig. 89). Convex; widest at base of urosternite I, weakly narrowed towards apex; urosternites I-IV parallel-sided, but slightly annulated; urosternite I slightly elongate; II-V transverse; I-IV with characteristic narrow, smooth depression at midline (on IV partially overlaid by secondary oval depression). Male urosternite V trapezoidal, with shallow soleate depression, the latter bounded by narrow, sides, these increasingly projecting towards base, terminating in pair of lateral tubercles; apex rounded and projecting.

Female abdomen (Fig. 90) fusiform, much wider and flatter, lacking characteristic depressions on urosternites; urosternite V conical, rather short, weakly declivous across middle, apical margin projecting (V-shaped). Abdominal process planar with abdomen, or almost so, in both sexes.

Apical tergite in male moderately elongate, subcylindrical, strongly convex and rounded at apex. Apical tergite in female hardly convex; long and conical.

Legs. Ratio lengths front/middle/hind leg 1.0:1.1-1.2:2.1-2.3.

Front and middle legs short (body length/length of legs 2.6 and 2.2 respectively); and pedunculate-clavate.

Front leg. Profemoral clave moderately broad, and abrupt (when viewed from the side), and tumid mesally (when viewed from above). Protibia slightly shorter than profemur; narrow at base, gradually widening to past middle, and parallel-sided to apex; apico-lateral margin oblique.

Middle leg. Length of mesofemur/width mesofemoral clave 2.59-2.82; clave flattened mesally (when viewed from above), and broad and abrupt (when viewed from the side). Mesofemur short in male, 1.55 longer than mesotibia; moderately short in female, 1.35 longer than mesotibia. Mesotibia moderately slender, and gradually widening to apex.

Hind leg subtype 3Bb (Fig. 107). Hind legs relatively short (body length 1.2 longer than legs); femoral clave not abrupt, and with moderately narrowed apex, the latter reaching middle to apex of urosternite IV in male, base of V in female; femoral peduncle narrow, flattened, and long (length clave/peduncle 0.94-0.98). Metatibiae bent inwards for apical half (when viewed from above), more strongly in female; shorter than metafemora, elegant, gradually widening to apex; apical half of metatibia with modest (rather long, dense, but not very wide), black colored brush. Metatarsus moderately short; less than half length of metatibia. Metatarsomere I subcylindrical, short, in male I/II + III 0.94, in female 1.06; II subtrapezoidal; III short, the lobes weakly divergent.

Male genitalia. Aedeagus Type 2 (Fig. 116). Tegmen subtype 2c, lateral lobes long (length/width 5.3), apex of paddle rather elongate. Median lobe Type 1, length 2.2 mm.

Surface ornamentation/pubescence. Notable pubescence on upper side restricted to apical half of pronotum (somewhat sparse, long, ashy and erect); short, triangular patch on inner half of basal constriction (long, recumbent and brassy); and in female, C-shaped patch on extreme sides of pronotum (short, recumbent and ashy).

Antennal scape and antennomere III with dense, short setae mesally; pedicel and antennomeres IV-VI with small group of long, black setae at apex.

Legs not atypical, but the following notable, profemoral clave weakly setose; mesofemoral clave densely clothed with thick, black setae; and metafemoral clave with short, black, sparse setae.

On underside notable pubescence on prosternum of male (very long, rather thick and sparse, ashy hairs); sides of mesosternum, margins of metasternum, metepisternum, and abdomen (moderately long, suberect, narrow, white or brownish hairs), and obscure patch at base of metasternum (greasy-looking, recumbent, very short hairs); and recumbent, short, dense silvery hairs on mesepimeron and adjacent margin of mesosternum (although rather duller and greyer); in male arced fascia along hind margins of urosternites I and II, and along margins of median depressions on II and III; and in female not as dense, but generally more extensive, especially on urosternites II and III.

Surface ornamentation/puncturation. Characteristic puncturation on pronotum of male (reminiscent of the genus *Forficuladeres*), may represent the sexual puncturation, as follows. Mix of simple or alveolate, deep, contiguous, small to very small punctures on depressed areas of pronotum (in rather narrow bands between the calli), on the slightly elevated calli becoming sparse shallower and slightly larger. In female depressed areas of pronotum and posterior calli rather sparsely and uniformly punctate (the punctures simple, deep, and much larger than in male).

Alveolate, contiguous punctures on the following; frons (multicarinate, with confluent punctures); vertex of head (rugose and small); prosternum and sides of pronotum (rugose and small in male, subcarinate and punctures larger in female); and elytra (subconfluent, and larger basally, contiguous and incrementally smaller from behind humeri to apex); but translucent panels, with sparse, small, round punctures, each with short, erect hair.

Simple punctures found on meso- and metasterna (almost micro-punctate); and beveled on abdomen (in male moderately dense and small; in female becoming very dense, shagreened, and micro-punctate towards apical segments).

Genus *Acyderophes* species sample data

Acyderophes fulgida (Chemsak and Linsley, 1979) comb. nov.

(Fig. 22, 23)

Acyphoderes fulgida Chemsak and Linsley, 1979a: 76, fig. 4.; Monné 2005: 456 (cat.).

Species Concept. Based on five paratypes in the EMEC collection, and compared with the holotype picture of Bezark (2010).

Measurements (mm). 3 males/2 females, total length, 16.1-18.7/17.5-19.3; length of prothorax, 3.10-3.20/3.10-3.45; width of prothorax, 2.60-2.85/2.80-3.10; length of elytra, 7.90-8.45/8.55-9.35; width at humeri, 3.00-3.25/3.25-3.65.

Material analyzed. Paratypes, nw COSTA RICA, Guanacaste, La Pacifica, 4 km NW Cañas, on *Casearia nitida*, 1 male, 25.V.1974, EMEC 202,801, and 1 female, 28.V.1974, EMEC 202,798.

Material examined. Paratypes, COSTA RICA, Guanacaste, La Pacifica, 4 km NW Cañas, *Asclepis* vine, 1 female, 2/4.VI.1973, P. A. Opler col. (EMEC 202,797); ditto, on *Trigona floribunda*, 1 male, 3.VII.1971 (EMEC 202,799); ditto, on *Casearia nitida*, 1 male, 25.V.1974 (EMEC 202,800).

Material analyzed (specimen B). MEXICO, Veracruz, Salto Eyipantla, nr. Catemaco, 1 male, 17.VIII.1976, J. Hafernik & R. Garrison col. (EMEC 202,803).

Material analyzed (specimen C). MEXICO, Colima, Colima vic El Terrero 4-6000', 1 male, 30.IX.1991, J. Wappes col. (ACMT).

Comparative data male phenotypes (A-C) of *Acyderophes fulgida* (Chemsak and Linsley, 1979)

Specimen (Note, A is a male paratype)	<u>A</u>	<u>B</u>	<u>C</u>
Specimen from Costa Rica, Veracruz or Colima	C. R.	VC	COL
Specimen from West/East Mesoamerican coast	W	E	W
Data sets			
1. Length of specimen (mm)	16.1	17.7	17.5
2. Lengths forebody/abdomen	0.99	1.07	0.99
3. Lengths antennomere III/scape	1.32	1.24	1.38
4. Rostrum width/length	2.33	2.43	2.72
5. Eyes, width inferior lobe/width of interocular	4.8	6.8	4.0
6. Prothorax length/width widest point	3.1	2.6	3.3
7. Prosternal process, widths base/coxal cavity	0.14	0.14	0.14
8. Length of elytra/width at humeri	2.63	2.67	2.70
9. Apex elytra reach urosternite	mid III	apex III	apex IV
10. Lengths elytra/forebody	1.00	1.12	1.12
11. Lengths mesosternum/metasternum	0.71	0.76	0.85
12. Mesosternal process, widths base/coxal cavity	0.30	0.42	0.32
13. Abdominal process inclination to abdomen	0°	10°	10°
14. Lengths hind leg/middle leg	2.1	2.1	2.3
15. Lengths mesofemur/mesotibia	1.56	1.24	1.44

16. Length of metafemoral clave/peduncle	0.94	0.89	0.86
17. Apex of metafemora reaching urosternite	apex IV	1/3 V	1/3 V
18. Metatarsomere I/II+III	0.89	0.85	1.10
19. Aedeagus with tegmen Type	2c	2d	?

Summary of the above data (underlined data indicates probable significant difference). In 16% of the data sets (1, 7 and 8) specimens A, B and C show no significant differences.

Specimen A. The male paratype from Costa Rica differs from B and C in 26% of the data sets (10, 13, 16, 17 and 19). It is closest to specimen B in 26% of the data sets (4, 9, 11, 14 and 18); and closest to C in 32% of the data sets (2, 3, 5, 6, 12 and 15).

Specimen B. From Veracruz differs from A and C in 32% of the data sets (2, 3, 5, 6, 12 and 15). It is closest to specimen A in 26% of the data sets (4, 9, 11, 14 and 18); and closest to C in 26% of the data sets (10, 13, 16, 17 and 19).

Specimen C. From Colima differs from A and B in 26% of the data sets (4, 9, 11, 14 and 18).

Conclusion. Specimen A and Specimen C are closer to each other than they are to Specimen B, especially in character sets 3, 5, 12 traditionally used by authors for the diagnosis of species; but in this same category different from each other in character sets 4, 9, 18 and 19 (of which the last, tegmen type, might be of special significance); but many more examples of Specimens B and C are needed, together with altitude and host flower records, before an accurate assessment can be made.

***Forficuladeres* gen. nov.**

(Fig. 1-6)

Type species. *Acyphoderes forficulifera* Gounelle, 1913, here designated.

Etymology. The name of this genus, *Forficuladeres*, recalls the name of the Type-species, *forficulifera* (from the Latin “forceps”, meaning pincers, or a pair of tongs), reminiscent of the shape of the tegmen of the aedeagus; and “deres” (to recall its relationship to *Acyphoderes*). Gender female.

Diagnosis. Prothorax subtype 2A (only shared with *Acyderophes*, see under this genus for diagnostic). Hind leg subtype 3B (shared by many other genera), but in *Forficuladeres* metatarsomere I shorter than II+III (the latter only shared by *Anomaloderes* and *Acyderophes*, see under these genera for diagnoses). Elytra Type 2, Abdomen subtype 1A, and aedeagus with tegmen subtype 1a, are not found in any other genera included in this revision.

Description of genus. Medium sized (15.9-18.6 mm), compact species; forebody 0.83-0.97 length of abdomen. Head with eyes distinctly narrower than width of prothorax (width prothorax/head 1.22-1.36). Rostrum rather long, width/length 2.0 (in *F. forficulifera*), rather short, width/length 2.6 (in *F. sexualis*). Maxillary palps short, apical palpomeres subcylindrical with truncate apices; galea long and narrow. Labrum large, not strongly transverse, two times wider than long; front margin emarginate, hardly declivous; sides well rounded; disc with dense group of small deep punctures. Clypeus flat, almost planar with labrum, and hardly wider; almost impunctate. Frontal suture in female weak and narrow, just traceable amongst dense punctures (in *F. sexualis*), broader and easily traceable amongst multicarinas (in *F. forficulifera*), from antennal tubercles to, or just past, front margin of inferior lobes of eyes.

Inferior lobes of eyes moderately convex (in female rather flat), slightly longer than wide; rather far apart (in male *F. sexualis* width of one lobe 3.2 interocular distance, in female 1.25), to subcontiguous (in male *F. forficulifera* width of one lobe 6.33 interocular distance, in female 1.33); their distal margins lying on frons in male, almost on gena in female, proximal margins transverse.

Superior lobes moderately large and wide, and rather weakly narrowed laterally (to two-thirds of their mesal width); the distance between them/width of one lobe in both sexes 1.86-2.00; with very fine ommatidia, arranged in approximately 18-20 rows (in female *F. sexualis* and male *F. forficulifera*), or not so fine, in 15-16 rows (in female *F. forficulifera* and male *F. sexualis*).

Mentum-submentum multicarinate, densely punctured (in *F. sexualis*), or more sparsely (in *F. forficulifera*), the punctures shallow and simple; in quadrate patch (in male *F. forficulifera*), or in transverse patch (in female *F. forficulifera*, and both sexes of *F. sexualis*).

Antennal tubercles somewhat small, rounded, but rather prominent; the distance between them/width of scape in males 2.29-2.43, in females 2.63-2.86.

Antennae short to moderately short, reaching from metacoxae to middle of urosternite II in male (not passing metacoxae in female); subcrassate; scape subcylindrical; antennomere III filiform 1.19-1.32 longer than scape; IV and V subcylindrical (in male *F. sexualis* pedunculate-clavate); IV about half length of III, slightly shorter than V; VI-X widened at apex and serrate (in *F. sexualis* with base of each segment narrow); VI subequal to IV and VII; VII-X incrementally slightly shorter; XI slightly longer than X (distinctly longer in female *F. forficuladeres*), with moderately large apical cone.

Prothorax subtype 2A. Obovate; slightly to distinctly elongate in male (length/width 1.08-1.20); in female subquadrate (length/width 1.04-1.05); sides regularly rounded from apex to basal constriction; front margin (f) slightly wider, to distinctly wider than hind margin (h), f/h 1.05-1.17; widest well before middle (prothoracic quotient 2.31-2.65, and in female *F. forficulifera* 3.94). Surface of pronotum moderately convex; lateral calli separated by rather wide, shallow sulcus.

Prosternum almost flat; but on lower plane than prosternal process (in *F. sexualis*), sloping to prosternal process (in *F. forficulifera*, and somewhat tumid at midline in female). Prosternal process not arced; base laminate to sublamine, in males 8-17 times narrower than width of procoxal cavity, in females 5-10 times narrower (and in both sexes widest in *F. sexualis*); apex moderately large, and trap-ezoidal. Procoxal cavities plugged at sides, closed behind.

Mesosternum subabrupt; base of mesosternal process moderately wide, 2.1-3.0 narrower than width of mesocoxal cavity (in males narrower in *F. forficulifera*, in females wider in *F. sexualis*); apex of process bilobed (the lobes moderately divergent, each one rather wide and truncate at apex). Mesocoxal cavity moderately open to epimeron.

Length of mesosternum/metasternum 0.9-1.0.

Elytra Type 2. Fissate and recurved in *F. sexualis*; short, in males 2.1-2.3 longer than width of humeri, in females 1.96-2.03 longer; reaching basal third of urosternite II. Humeri broadly rounded and projecting. Each elytron with well demarcated translucent panel. Apex unarmed.

Metathorax broad; sides rounded to middle of apex (as in *Ameriphoderes*). Metasternum tumid, and more prominent than mesocoxae (in *F. forficulifera*), not flattened on disc; longitudinal suture moderately shallow but long. Metepisternum cuneate.

Abdomen subtype 1A (Fig. 5, 61). Male abdomen with Urosternite I cylindrical; II and III conical; IV bowl-shaped, strongly transverse, with well rounded sides (basal margin much narrower than apical margin). Male urosternite V much wider than I-III, distinctly wider than IV; with large, very deep soleate depression, its sides strongly raised and narrow towards base of segment (when viewed laterally in *F. sexualis* appear as a prominent, acute, bifid tubercle, in *F. forficulifera* much less prominent). Female abdomen (Fig. 3) differs from male by the following, urosternite IV wider than III and V, cylindrical, but strongly transverse; urosternite III bowl-shaped (as IV in male); urosternite V more trapezoidal and, uniquely, with explanate sides; and, unusual among females, with shallow soleate depression (only shared by *Acyphoderes hirtipes*). Abdominal process moderately strongly inclined (60-70°) in both sexes.

Legs. Ratio lengths front/middle/hind leg 1.0:1.1-1.2:2.0-2.1. Front and middle legs short (body length more than 2.7-2.8 and 2.4 respectively, but in female *F. sexualis* even shorter, 3.2 and 2.8 respectively); and pedunculate-clavate.

Front leg. Profemoral clave broad and abrupt (when viewed from the side), tumid mesally and laterally (when viewed from above). Protibia slightly shorter, or equal in length to profemur; narrow at base, rather abruptly widening and parallel-sided to apex; apico-lateral margin oblique.

Middle leg. Length of mesofemur/width mesofemoral clave 1.02-1.09 (in *F. sexualis*), 1.13-1.28 (in *F. forficulifera*); claves flattened mesally (when viewed from above), broad and abrupt (when viewed from the side). Mesofemur relatively long in males, 1.28-1.29 longer than mesotibia, relatively short in females, 1.18 longer. Mesotibia robust (in *F. forficulifera*), relatively slender (in *F. sexualis*); gradually widening to apex (in *F. forficulifera* and in female *F. sexualis*), narrow at base and parallel-sided for apical half (in male *A. sexualis*).

Hind leg subtype 3Ba (Fig. 106). Relatively short (body length 1.4-1.5 longer than legs); femoral clave moderately abrupt (in *F. forficulifera*), more so (in *F. sexualis*); and strongly narrowed at apex; the latter reaching middle to apex of urosternite III (in males and female *F. forficulifera*), or basal fifth of urosternite IV (in female *F. sexualis*); femoral peduncle rather narrow, cylindrical (in *F. sexualis*), or flatter (in *F. forficulifera*), and long (length clave/peduncle 1.0-1.1, or 1.3 longer in female *F. forficulifera*). Metatibiae bisinuate, shorter or longer than metafemora (without specific or sexual differences), moderately robust, gradually widening to apex; apical two-thirds of metatibia (to slightly less in *F. sexualis*) with rather long, dense, black colored brush. Metatarsus moderately short, slightly less than half length of metatibia (in *F. forficulifera*), or shorter (in *F. sexualis*). Metatarsomere I subcylindrical, short, I/II+III 0.7-0.9 (longest in *F. sexualis*); II subtrapezoidal; III short, the lobes weakly diverging.

Male genitalia. Aedeagus Type 1 (Fig. 110, 111). Tegmen subtype 1a, lateral lobes moderately long (length/width 4.0-4.2). Median lobe Type 1, length 2.3-2.5 mm.

Surface ornamentation/pubescence. On upper side notable pubescence absent; but somewhat notably pubescent on apical half of pronotum (dense, recumbent, scalloped patch of ashy to brown, and somewhat untidy hairs); and less notable pubescence on sides of pronotum (long, disorderly, erect hair, dusky or brownish in color); mentum/submentum (long, dense, grey to black, or brownish, and suberect hairs); prosternum (longer, disorderly and more erect hairs); meso- and metasterna (hairs suberect and untidy on episterna); and on urosternite V (hairs less dense in *F. forficulifera*).

Antennal scape to antennomere III with dense, short setae mesally; and antennomeres IV-VII with small group of long, black setae at apex.

Legs. On femoral claves (moderately dense setae, long and white in color); and metatibiae with elongate, long-haired, black brushes.

On underside notable pubescence (discrete areas of dense, recumbent, metallic or brightly colored hairs) only present on mesepimeron and adjacent margin of mesosternum (yellowish to white hairs); and most notably, shining, silvery pubescence along hind margin of urosternites II and III in males, and long, transverse patch on II in females.

Surface ornamentation/puncturation. Characteristic puncturation on pronotum of male (reminiscent of the genus *Acyderophes*, may represent the sexual puncturation) as follows; simple, deep, contiguous, small to very small punctures on depressed areas of pronotum (in broad bands between the calli), on the slightly elevated calli becoming sparse shallower and slightly larger; in female pronotum almost uniformly punctate, the punctures also simple, and as deep, but sparser and generally slightly larger than in male. Simple punctures found on the following; frons (multicarinate, with confluent punctures); metasterna (subcontiguous); and abdomen (basal segment almost impunctate, but incrementally dense and beveled towards apical segments). Alveolate, dense punctures on the following; vertex of head (small and confluent); prosternum and sides of pronotum (in *F. forficulifera* punctures almost uniform and very small, in *F. sexualis* rather rugose mix of very small and larger punctures); and elytra (except translucent panels, which are almost impunctate) confluent, somewhat beveled and larger at base, smaller and contiguous at sides. Mesosternum almost impunctate.

Key to the species of *Forficuladeres* new genus based on males and females

1. Rostrum rather long, width/length 2.0-2.1; in male width of one inferior lobe of eyes/interocular distance 6.3; in females 1.30; in male antennomeres IV-X obscurely yellow and dusk; in both sexes antennae reach metacoxae and lengths antennomere III/scape 1.2; in male prothorax length/width 1.2; in both sexes widest before middle; in female widths of mesocoxal cavity/base of mesosternal process 2.63; metatibiae yellow for basal third; with brush on apical two-thirds. Male 17.5 mm. (Fig. 1). Female 18.3 mm. (Fig. 2, 3). Panama, Colombia *F. forficulifera* (Gounelle, 1913) **comb. nov.**
- Rostrum rather short, width/length 2.6; in male width of one inferior lobe of eyes/interocular distance 3.2; in female 1.25; in male antennomeres IV-X contrastingly bright yellow and dusky;

in male antennae reach middle of urosternite I, in female reach metacoxae; in both sexes lengths antennomere III/scape 1.3; in male prothorax length/width 1.1, in both sexes widest at middle; in female widths of mesocoxal cavity/base of mesosternal process 2.11; metatibiae yellow for basal half; with brush on apical half. Male 15.9 mm. (Fig. 4, 5). Female 18.6 mm. (Fig. 6). W and SE Mexico (Nayarit-Oaxaca, Veracruz) ***F. sexualis* (Linsley, 1934) comb. nov.**

Genus *Forficuladeres* species sample data

***Forficuladeres forficulifera* (Gounelle, 1913) comb. nov.**

(Fig. 1, 2)

Acyphoderes forficulifera Gounelle, 1913b: 388, 1 fig.

Sphecomorpha forficulifera; Monné and Giesbert 1992: 250 2005.

Species Concept. Based on material in the ACMT and MZUSP collections, and compared with the syntype picture of Bezark (2010).

Measurements (mm). 2 males/3 females, total length, 16.3-17.5/15.8-20.6; length of prothorax, 2.65-3.00/2.50-3.40; width of prothorax, 2.40-2.50/3.00-3.15; length of elytra, 4.90-6.00/4.85-6.80; width at humeri, 2.40-2.85/2.50-3.30.

Material analyzed. GUATEMALA, Zacapa, San Lorenzo Rd., 1500-1800', 1 female, 1-10.VI.1981, J. E. Wappes col. (ACMT). PANAMA, Colon, Portobelo, 12 km SW Santa Rita Ridge, 1 male, 27.V.1989, D. Roubik col. (MZUSP).

Material examined. COLOMBIA, Magdalena, Rio Frio, 1 male, 11.II.1928, Darlington col. (MZUSP). COSTA RICA, 1 female, E. Gongora col., F. Nevermann leg. (MZUSP). PANAMA, Canal Zone, Ciricito, 1 female paratype *F. propinquus*, J. M. Linsley col. (MZUSP).

***Forficuladeres sexualis* (Linsley, 1934) comb. nov.**

(Fig. 4, 6)

Acyphoderes sexualis Linsley, 1934a: 349; Monné 2005: 457 (cat.).

Species Concept. Based on material in the ACMT collection, and those identified by Linsley and Chemsak in the EMEC collection, and compared with the holotype picture of Bezark (2010).

Measurements (mm). 3 males/5 females, total length, 15.9-21.8/18.6-19.2; length of prothorax, 2.60-3.70/2.90-3.25; width of prothorax, 2.40-3.15/2.80-3.05; length of elytra, 5.80-6.85/5.60-6.55; width at humeri, 2.5-3.60/2.85-3.35.

Material analyzed. MEXICO, Jalisco, Chamela, vic. UNAM, 1 male, 9-19.VII.1993, J. Wappes col. (ACMT); Est. Bio. Chamela, 1 female, 8/16.VII.1985, J. A. Chemsak, E. G. & J. M. Linsley col. (EMEC 202,823).

Material examined. MEXICO, Guerrero, Hwy. 200, 21 km N. Ixtapa, 1 male, 17.VII.22-1985, J. Wappes col. (ACMT); Jalisco, Est. Bio. Chamela, 1 male, 8/16.VII.1985, J. Chemsak, A. Katsura & E. Michelbacher col. (EMEC 202,818); ditto, 4 females, 14-23.X.1986, J. A. Chemsak col. (EMEC 202,819-822).

***Ameriphoderes* gen. nov.**

(Fig. 31-52)

Type species. *Acyphoderes acutipennis* Thomson, 1860, here designated.**Etymology.** The name of this genus, *Ameriphoderes*, refers to the vernacular “American”, meaning from the northern part of the New World; and “deres” (to recall its relationship to *Acyphoderes*). Gender female.**Diagnosis.** Prothorax subtype 4A in Group 1 species (only shared with *Acutiphoderes*, see under this genus for diagnostic); or subtype 4B in Group 2 species (not shared by any other genus included in this revision). Elytra EITHER subtype 4A (unique to *Ameriphoderes amoena*); OR subtype 4B (in Group 1 species), not shared by any other genus included in this revision; OR subtype 5A (in the remaining Group 2 species), only shared by *Amerispheca* (see this genus for diagnostic). Abdomen subtype 1B in Group 1 species (not shared by any other genus included in this revision); or subtype 2A in *Ameriphoderes amoena* (shared by *Acyderophes*, *Acyphoderes*, *Amerispheca*, and *Anomaloderes*, see these genera for diagnostic, and *Bromiades* which has a distinctive urosternite V as described under the diagnosis for this genus). Hind Leg EITHER subtype 1B (in *Ameriphoderes amoena* and *A. suavis*), only shared by *Acutiphoderes* (see this genus for diagnostic); OR subtype 3A (in the remaining Group 1 species), not shared by any other genus included in this revision; OR subtype 3Bb (in *Ameriphoderes magna*), shared by *Acyderophes*, *Amerispheca*, and *Brachyphoderes* (see under this genus for diagnostic), but in *A. magna* metafemoral clave short, lengths clave peduncle 0.77; and metatarsomere I very long, 1.45 longer than II+III (in *Acyderophes* clave/peduncle 0.98 and I/II+III 0.94; in *Amerispheca* clave/peduncle 0.91 and I/II+III 1.31); OR subtype 3Bc in *Ameriphoderes bayanicus*, *A. cribricollis* and *A. prolixa* (only shared by *Acyphoderes* Group 3 species, see this genus for diagnostic).Aedeagus with Type 3 tegmen (shared by *Acutiphoderes* and *Anomaloderes*) but in *Ameriphoderes* lateral lobes narrow (in *Anomaloderes* and *Acutiphoderes* wide); and shared by *Amerispheca* and *Odontogracilis* (see under these two genera for diagnostic).**Description of genus.** Medium to large sized (14.2-27.0 mm); somewhat compact, yet elegant species; forebody 0.62-0.98 length of abdomen.

Head with eyes narrower than width of prothorax (width prothorax/head 1.02-1.29). Rostrum moderately long and wide (in male width/length 2.19-3.00; in female 2.19-3.13). Maxillary palps short to moderately long, apical palpomeres subcylindrical to cylindrical with truncate apices; galea moderately, to very, long and narrow. Labrum rather small and transverse, about two times wider than long; front margin emarginate and declivous; sides rounded; disc usually impunctate. Clypeus flat, slightly inclined to labrum, and hardly wider; nearly glabrous and impunctate; and often separated from frons by transverse depression. Frontal suture very short to long, well marked or just traceable through dense punctures, from antennal tubercles to beyond apical margins of inferior lobes.

Inferior lobes of eyes small to relatively large; slightly wider than long (in Group 1 species), longer than wide (in Group 2 species); moderately widely separated in male, width of one lobe/interocular distance 1.35-2.50, but see *A. bayanicus* with narrow interocular (5.25); and widely separated in female, 0.72-1.13, but see *A. prolixa* for wider extreme (0.59), and *A. acutipennis* for narrower one (1.57). Distal margins of inferior lobes lying on genae (but see male *A. cribricollis*); proximal margins transverse or oblique.

Superior lobes moderately small and rather strongly narrowed (to one third or half their mesal width); the distance between them/width of one lobe (intraspecifically nearly always smaller in males than females) in males 1.67-2.60, in females 1.89-3.11; with relatively large ommatidia, arranged in approximately 12-20 rows.

Mentum-submentum represented by transverse or subquadrate area; the surface multicarinate (the carinas confused with small elliptical areas), and punctured (the punctures subalveolate, rather small to moderately large, and usually situated in these ellipsoids).

Antennal tubercles moderately small, rounded, and usually moderately prominent, in males the distance between them/width of scape in 1.86-2.60, in females 1.67-2.50.

Antennae short; in males reaching from metacoxae to middle of urosternite I (in Group 1 species), from apical third of urosternite I to apex of II (in most Group 2 species); in females do not pass metacoxae (in Group 1 species), from base of urosternite I to apex of I (in most Group 2 species); filiform to somewhat crassate (thicker in females). Scape pyriform or subcylindrical; antennomere III usually filiform, but often rather broad, in male 1.20-1.45 longer than scape, in female 1.14-1.43; IV subcylindrical or somewhat trapezoidal, much shorter than III, and shorter than V; V filiform to somewhat trapezoidal, or distinctly widened at apex, shorter to slightly longer than VI; VI-X incrementally shorter, VI-X elongate and narrow, broadly widened at lateral side of apex, and usually strongly serrate; XI as long as or longer than X, with small apical cone (and sometimes subserrate).

Prothorax subtype 4A (in Group 1 species), or subtype 4B (in Group 2 species).

Prothorax subtype 4A. Sides EITHER almost straight and contracted from middle to front margin (in male *A. yucateca*, both sexes of *A. parva* and *A. ayalai*), OR sides from middle to front margin less contracted and projecting laterally (in female *A. yucateca*, and in both sexes of *A. acutipennis*, *A. velutina* and *A. suavis*); and slightly emarginate and strongly contracted to basal constriction; front margin (f) slightly narrower to wider than hind margin (h), in both sexes f/h 0.97-1.13.

Prothorax subtype 4B. Urn-shaped or subcylindrical; quadrate (in female *A. proluxa*), usually moderately elongate (length/width 1.06-1.15); front margin (f) narrower than hind margin (h), in both sexes, f/h 0.84-0.97; in male sides widest from middle to behind middle (prothoracic quotient usually 1.86-1.91, except in *A. amoena* 2.21); in female from middle to well before middle (prothoracic quotient 2.12-2.18, except in *A. amoena* 2.39).

Prothorax subtypes 4A and 4B. Surface of pronotum convex, irregular; lateral calli in *A. parva* less well defined, in *A. ayalai* calli more rounded; median callus broad, or narrow (in *A. ayalai*), and rather weak (in *A. cribricollis* and *A. proluxa*). Apical constriction weaker in males (weakest in *A. suavis*, *A. bayanicus* and *A. cribricollis*) or strong (but in *A. velutina* not reaching sides of pronotum); basal constriction deep and narrow (especially in *A. cribricollis*), or very deep and broader (especially in *A. proluxa*).

Prosternum declivous across apical third, and well inclined to prosternal process. Prosternal process arced; base of process moderately narrow to almost laminate, in males 5-19 times narrower than width of procoxal cavity, in females 4-18 times narrower; apex large to moderately large, trapezoidal, declivous across apical third (leaving it almost planar with mesosternal surface). Procoxal cavities plugged at sides, closed behind.

Mesosternum usually abrupt and deep; base of mesosternal process moderately wide, in males coxal cavity 2.4-3.8 wider than base of mesosternal process, in females 1.6-4.0 wider; apex of process not elaborate, the base simply widened (sometimes very little), to form a flat, angular extension to each side. Mesocoxal cavity widely, to moderately widely open to epimeron in both sexes in all species.

Length of mesosternum/metasternum in both sexes 0.67-0.83 (in Group 2 species), 0.76-1.14 (in Group 1 species).

Elytra Type 4 (in Group 1 species and *A. amoena*) or Type 5 (in remaining Group 2 species). With moderately well-defined to ill-defined translucent panels; humeri may be rounded and projecting, or square and not projecting, and prominent or not.

Elytra Type 4. Apices of elytra usually truncate and armed with spicules or small teeth, and reach base of urosternite II to basal third of III.

Subtype 4A (in *A. amoena*). Apex of elytra subacuminate and unarmed.

Subtype 4B (in *A. acutipennis*, *A. ayalai*, *A. parva*, *A. suavis*, *A. yucateca* and *A. velutina*). Apex of elytra truncate and armed with spicules or small teeth.

Subtype 5A (in *A. bayanicus*, *A. cribricollis*, *A. magna* and *A. proluxa*). Apex of elytra obliquely rounded.

Metathorax either very broad and hemispherical, or less broad and obovate. Metasternum tumid, usually broadly flattened on disc (but see *A. yucateca*), and planar, or almost planar, with mesocoxae; longitudinal suture shallow to moderately deep, and long. Metepisternum broadly cuneate (somewhat narrower in *A. ayalai* and *A. bayanicus*), and weakly convex.

Male abdomen EITHER Type 1 (in Group 1 species), subtype 1Ba (Fig. 63, 64) in *Ameriphoderes parva* and *A. yucateca*; or subtype 1Bb (Fig. 65, 66, 68) in *Ameriphoderes acutipennis*, *A. ayalai*, *A. suavis* and *A. velutina*; OR male abdomen Type 2, subtype 2A (Fig. 87) in *Ameriphoderes amoena*, or subtype 2B (Fig. 91, 93, 95, 97) in *Ameriphoderes bayanicus*, *A. cribricollis*, *A. magna* and *A. proluxa*.

Abdomen Types 1 and 2. Urosternite V trapezoidal; with shallow or deep soleate depression; the depression bounded by weak or strongly prominent sides. Abdominal process either vertical (in Group 1 males), or steeply inclined to abdomen, 60-90° slope (in Group 1 females, and both sexes of *A. bayanicus*), or planar with abdomen to moderately inclined, 0-45° slope (in most Group 2 species of both sexes); its apex usually with narrow, recurved extension.

Female abdomen (Fig. 69, 70, 88, 92, 94 96, 98) are usually somewhat wider and more fusiform than in male (but see *A. parva* and *A. yucateca*).

Apical tergite in male usually subcylindrical, elongate and convex (but see *A. cribricollis* and *A. yucateca*); and rounded or truncate at apex; in female subcylindrical or conical, and less convex.

Legs. Ratio length front/middle/hind leg 1.0:1.2-1.4:1.9-3.0.

Front and middle legs short (body length/length of legs 2.8-3.4 and 2.0-3.4 respectively); not strongly, or strongly pedunculate-clavate.

Front leg. Profemoral clava moderately broad to broad, and abrupt (when viewed from the side); in male (when viewed from above) moderately tumid mesally (but see *A. suavis*), often more strongly in female. Protibia slightly shorter than profemur (but see *A. magna* and female *A. velutina*); gradually widening to apex; apico-lateral margin moderately, to strongly oblique.

Middle leg. Length of mesofemur/width mesofemoral clava 2.3-4.6 (when viewed laterally); mesofemoral clavae moderately broad to broad and abrupt (when viewed from the side), and exceptionally tumid (in *A. parva*, *A. velutina* and *A. yucateca*). Mesofemur moderately short (without sexual distinction), 1.23-1.35 length of mesotibia; or short, 1.42-1.43 length of mesotibia (in *A. proluxa*). Mesotibia slender; gradually widening to apex (in most Group 2 species, and in *A. ayalai* and in male *A. yucateca*); weakly widening (in the remaining Group 1 species); and unique, with narrow base, strongly widened to middle, and excised to apex (in male *A. proluxa*; reminiscent of protibia of *A. hirtipes*).

Hind leg Type 1 or Type 3. Relatively long (body length/length of leg 0.9-1.5).

Hind leg subtype 1B (Fig. 102) in *A. amoena* and *A. suavis*. Femoral clava not tumid, but somewhat abrupt; peduncle short to moderately short (lengths clava/peduncle 1.2-1.6). Metatibia without brush. Metatarsomere I cylindrical, moderately long to long, I/II+III 1.0-1.4.

Hind leg Type 3 (in most species of the genus). Metatibia with or without brush; metatarsomere I cylindrical or subcylindrical, I /II+III 0.7-1.6.

Subtype 3A (Fig. 105) in most Group 1 species (*Ameriphoderes acutipennis*, *A. ayalai*, *A. parva*, *A. velutina* and *A. yucateca*).

Subtype 3Bb (Fig. 107) in *Ameriphoderes magna*.

Subtype 3Bc (Fig. 108) in *Ameriphoderes bayanicus*, *A. cribricollis* and *A. proluxa*.

Hind leg Types 1 and 3. Apex of femoral clava moderately narrowed (in *A. magna* and *A. proluxa*), strongly narrowed (in the remaining species of the genus); the latter reaching from basal third of urosternite III to base of V. Metatibiae straight, or bent inwards for apical half, and doubly sinuate (when viewed from above); slightly shorter to slightly longer than metafemora; rather robust (in *A. amoena*), or elegant; and gradually widening to apex (in most Groups 1 and 2 species), or abruptly wider at apex (in *A. proluxa* and *A. velutina*); with rather short or long setae, but not quite thick enough to be called a brush (except in *A. magna*). Metatarsus rather long, 0.4-0.6 length of metatibia; metatarsomere I cylindrical or subcylindrical, and moderately broad or slender, 1.0-1.5 length of II+III; II trapezoidal; III lobes rather short and rounded, or long and narrow, and rather weakly to moderately divergent.

Male genitalia. Aedeagus Type 3. Tegmen Type 3, lateral lobes very long and narrow to short and broad (length/width 3.4-6.9), not or moderately divergent (but see *A. parva*); not twisted (but see *A. proluxa*).

Tegmen subtype 3a (Fig. 122, 123) in *A. magna* and *A. proluxa*.

Tegmen subtype 3c (Fig. 127-131, 137) in all Group 1 species.

Tegmen subtype 3d (Fig. 132, 134) in *A. amoena* and *A. cribricollis*, lateral lobes short and broad (length/width 5.0).

Tegmen subtype 3e (Fig. 138) in *A. bayanicus*, lateral lobes moderately long (length/width 5.0); apex moderately acuminate.

Median lobe Type 2, short, length 1.5-2.4 mm.

Surface ornamentation/pubescence. Notable dense, recumbent, pubescence is present in all species (*A. acutipennis* the most glabrous), although variable in its extent, its color (black, white, creamy, brassy, yellow, or golden), and its brilliance; and may vary between the sexes (for example, in both sexes of *A. velutina*, a dark colored species, it is black and the individual hairs short, and requires close scrutiny to determine its extent; whereas on the upper side in *A. amoena*, a paler colored species, it is golden, the individual hairs long, and eye-catching, yet on the underside of males almost absent on sterna, but present on most abdominal segments).

Notably dense, recumbent pubescence is frequently present on the following surfaces. Pronotum (apical and basal constrictions, spreading across disc and to sides in many species), scutellum (usually, but not always the same color as on pronotum, see *A. velutina* for exception); centre of mesosternum (often absent, or rubbed); mesepimeron and adjacent margin of mesosternum (in nearly all species, but may be restricted to the mesepimeron, as in male *A. proluxa*); metasternum (often absent from apical half); metepisternum (most often along lateral margin and covering apex); and latero-posterior margins of urosternites (when present, more often on I and II, but in male *A. amoena* with golden hairs on urosternites I-IV and secondary oblique fascias near base of II and III, and in *A. ayalai* similar, but oblique fascias on urosternites III and IV).

Apart from the dense, recumbent, pubescence summarized above, the following surfaces may be clothed with pubescence of a different kind. Prosternum with somewhat dense, long, suberect and untidy hairs (but variable, more recumbent and tidy, less dense, shorter, etc), and usually ashy to ochraceous in color. Elytra glabrous (in *A. proluxa*), or almost glabrous, with few scattered, short hairs (longer at base), these usually somewhat erect; but may be uniform and longer (in *A. amoena*), or recumbent (in *A. cribricollis*). Abdomens may be almost uniformly clothed with rather dense hairs (in males of *A. amoena*, *A. cribricollis* and *A. magna*), or urosternite I may be close to glabrous (in most Group 1 species, and in female *A. amoena*, in both sexes of *A. magna*, and in male *A. proluxa*), or generally somewhat glabrous (in some females, and in both sexes of *A. bayanicus*).

Antennal scape, pedicel, and antennomeres III-V(VI) with setae on meso-ventral surface; on scape and antennomeres III and V, and usually VI, with fringe of moderately short setae; on IV (and often pedicel) with additional, extra-long setae; the setae varying in color from rufous to chestnut, or black.

Legs clothed with fine, pale-colored hairs, apart from metatibiae (see above), somewhat weakly so; tarsi much the same, or more densely pubescent.

Surface ornamentation/puncturation. Much of surface hidden by dense pubescence (with its concomitant dense puncturation, the punctures of small size, and usually mixed with, if not entirely, micropunctate). Head and pronotum densely and moderately deeply punctate, almost rugose; the punctures a mix of small to moderately large ones (with groups of micropunctures), simple or alveolate; and only absent or sparser on labrum, clypeus and pronotal calli. Elytra generally somewhat sparsely punctate between humeri (where a few larger punctures may be found), and more so on translucent panels (in *A. amoena* panels impunctate) where the punctures are shallow and usually microsetose; but all species with a single row of contiguous very small punctures adjacent to sutural border, and denser punctures at elytral apex; and epipleur with 1-4 rows of very dense punctures.

Underside puncturation. Prosternum with dense mix of subalveolate to simple, dense to confluent, rounded or elliptical, small to large punctures, embedded between transverse fine sulci. Mesosternum indefinite, but partly micro-punctate in most species; usually with narrow transverse patch of small and slightly larger punctures adjacent to postcoxal process of prosternum, and smoother area towards sides with scattered, small, shallow punctures (in some species). Metasternal puncturation very variable, usually rather dense (but see *A. amoena* and *A. ayalai*), either simple punctures mixed with small to very small, slightly beveled ones (in most species), or large, sparse, moderately deep punctures embedded in a matrix of micropunctures and coarse reticulation (in male *A. suavis* and *A. yucateca*). Metepisternum (completely hidden by pubescence in *A. bayanicus*) either basally almost impunctate, with a few shallow punctures (in *A. amoena* and *A. ayalai*); or rather uniformly covered with small, sparse punctures (large, dense punctures in female *A. proluxa*), and often with group of dense large punctures at extreme base.

Abdominal puncturation in *Ameriphoderes* Group 1 species less variable (but see *A. ayalai*); urosternite I usually impunctate, or almost so (except in *A. yucateca*). Type 1 punctures, almost uniformly very small, and beveled, on urosternites II-IV very densely punctate (*A. acutipennis*, *A. parva*, *A. suavis*, *A.*

velutina, and female *A. yucateca*), or incrementally punctate (in male *A. yucateca*). Type 2 punctures, larger and rounded (at least on basal segments); becoming incrementally denser and beveled towards IV and V (in *A. ayalai*).

Abdominal puncturation in *Ameriphoderes* Group 2 species more variable, urosternite I usually partially punctate (less so in *A. bayanicus*). Type 1 punctures, almost uniformly very small, and beveled; becoming incrementally denser towards apical segments (in *A. bayanicus* and *A. magna*). Type 2 punctures, small or large, and rounded (at least on basal segments); often mixed with smaller or larger ones, and may become slightly beveled towards apical segments (in *A. amoena* and *A. cribricollis* the punctures larger, in *A. prolixa* smaller).

Species groups. The genus is divided into two species groups (see the list of species of *Ameriphoderes*), with the following diagnoses based on males.

Group 1. Antennae do not pass middle of urosternite I; prothorax subtype 4A, trapezoidal, widest well before middle; elytra subtype 4B, each elytron gradually narrowing to apex, the latter not passing middle of urosternite III, and weakly armed with small tooth or spine; mesosternal declivity subabrupt; abdomen subtype 1B, abdominal process with 80-90° inclination, usually similar, or slightly less inclined in females (and see female *A. acutipennis* with 60° inclination); hind leg Type 1B, or usually 3A. Aedeagus Type 3c.

Group 2. Antennae usually pass middle of urosternite I; prothorax subtype 4B, more cylindrical, widest at or behind middle; elytra subtypes 4A or 5A, each elytron almost parallel-sided towards apex; the latter usually passing middle of urosternite III, and unarmed; mesosternal declivity abrupt; abdomen subtype 2A or 2B, abdominal process usually weakly inclined, 10-45° slope (but see *A. bayanicus* with 70° inclination); hind leg Type 1B or usually 3B. Aedeagus Type 3a, 3d or 3e.

Key to the species groups of *Ameriphoderes* new genus based on males and females

Note. Both *A. amoena* (Group 2) and *A. suavis* (Group 1) are problematic as they seem to fall between Groups 1 and 2; but the structure of the prothorax (whether rather trapezoidal or more urn-shaped) is considered the primary character separating these groups.

1. In males prothorax subtype 4A, trapezoidal; widest before middle, prothoracic quotient 2.17-3.30, in females 2.32-2.82 (but see *A. amoena*); in males rostrum width/length 2.19-2.46 (except in *A. ayalai* 3.00); in males width of one inferior lobe of eyes/interocular distance 1.4-1.9; in males antennae reach from metacoxae to urosternite I; in females antennae do not reach metacoxae (except in *A. yucateca*); elytra subtypes 4A or 4B; in male lengths of elytra/forebody 0.84-1.17; in females 0.82-1.12; in both sexes length of elytra/width humeri 2.10-2.70 (except in *A. suavis* 3.1-3.2) and apex of elytra reach from base of urosternite II to basal third of III (except in female *A. suavis* apical third of III); in both sexes lengths mesosternum/metasternum 0.76-1.14; in males widths of mesocoxal cavity/base of mesosternal process 2.4-3.1; in females 1.7-2.5; in males abdomen Type 1 (Fig. 63-66, 68), generally shorter, lengths forebody/abdomen 0.80-0.92 (except in *A. acutipennis* 0.72), in females 0.70-0.80; in both sexes abdominal process nearly vertical to abdomen; in males hind legs subtype 3A (except in *A. suavis* Type 1B) **Group 1**
- In males prothorax subtype 4B, urn-shaped, widest from middle to behind middle; in males prothoracic quotient 1.80-1.92 (but see *A. amoena* 2.21), in females 2.00-2.16 (except in *A. amoena* 2.39); in males rostrum width/length 2.60-3.30 (except in *A. bayanicus* 2.29); in males width of one inferior lobe of eyes/interocular distance 2.1-5.3; in males antennae reach urosternites I-II; in females reach urosternite I (except in *A. prolixa*, only reaching metacoxae); elytra subtype 5A (except in *A. amoena* subtype 4B); in males lengths of elytra/forebody 1.26-1.46 (except in *A. amoena* 1.09); in females 1.16-1.61; in males length of elytra/width humeri 2.87-4.10; in females 3.22-4.06 (except in *A. amoena* 2.84); in males apex of elytra reach from middle to apex of urosternite III; in females from apical third of III to middle of IV; in both sexes lengths mesosternum/metasternum 0.63-0.76 (except in *A. amoena* 0.83); in males widths of

mesocoxal cavity/base of mesosternal process 2.6-3.8; in females 2.8-4.0 (except in *A. proluxa* 1.6); in males abdomen Type 2 (Fig. 90, 93, 95, 97), generally longer, lengths forebody/abdomen 0.62-0.81 (except in *A. acutipennis* 0.72), in females 0.68-0.98; in both sexes abdominal process moderately inclined to abdomen (10-70°). Male hind legs subtype 3B (except in *A. amoena* Type 1B) **Group 2**

Key to the Group 1 species of *Ameriphoderes* new genus based on males and females

1. Pronotum with distinct bands of dense, golden or creamy pubescence; in males metatarsomere I/II+III 1.44-1.45, in females 1.35-1.52 **2**
- Pronotum almost uniformly covered by inconspicuous ashy pubescence, basal and apical constrictions with band of denser, pale yellow or ashy pubescence; in males metatarsomere I/II+III 1.04-1.23; in females 1.07-1.27 **3**
- 2(1). Apical and basal constriction of pronotum with narrow band of golden pubescence; in male antennae reach metacoxae, in female do not pass apex of metasternum; in male lengths antennomere III/scape 1.24, in female 1.19; in male rostrum width/length 2.19, in female 2.44; in male width of one inferior lobe of eyes/interocular distance 1.4, in female 0.95; in male prothorax widest in front of middle (prothoracic quotient 2.36-2.38); in male base of prosternal process about one twelfth (0.08) width of coxal cavity, in female 0.12; in male lengths elytra/forebody 1.17; in female 1.07; in male length of elytra/width humeri 3.20, in female 3.12; in male lengths mesosternum/metasternum 1.00; in female 0.76; in male widths of mesocoxal cavity/base of mesosternal process 3.1, in female 2.5; in male abdomen subtype 1B, in female more fusiform (Fig. 70). Male 27.0 mm. Fig. 37). Female 23.9 mm. (Fig. 38). SW USA (Texas), Mexico-Costa Rica ***A. suavis* (Bates, 1885) comb. nov.**
- Pronotum variably covered by golden pubescence, or furnished with isolated patches, but broad bands covering apical third and basal fifth (including all of constriction) densely pubescent; in male antennae reach urosternite I, in female reach metacoxae; in male lengths antennomere III/scape 1.24, in female 1.17; in male rostrum width/length 3.00, in female 2.82; in male width of one inferior lobe of eyes/interocular distance 2.0, in females 1.08; in male prothorax widest near middle (prothoracic quotient 2.17); in male base of prosternal process about one eighth (0.12) width of coxal cavity, in female 0.24; in male lengths elytra/forebody 0.87, in female 0.94; in male length of elytra/width of humeri 2.36, in female 2.23; in male lengths mesosternum/metasternum 0.80, in female 0.78; in male widths of mesocoxal cavity/base of mesosternal process 3.0, in female 2.4; abdomen similar in both sexes subtype 1B (Fig. 66). Male 16.2 mm. (Fig. 33). Female 15.9. (Fig. 34). W Mexico (Jalisco) ***A. ayalai* (Chemsak and Linsley, 1988) comb. nov.**
- 3(1). In males abdomen subtype 1Bb (Fig. 65, 68); urosternite IV not much wider than III and base of V much narrower than III, in females urosternite V almost quadrate **4**
- In males abdomen subtype 1Ba (Fig. 63-64); urosternite IV distinctly wider than III and base of V as wide as III, in females urosternite V transverse **5**
- 4(3). In male abdomen subtype 1Bb, but broad, and urosternite V transverse (Fig. 68), in female resembles subtype 1A (Fig. 69); pronotum almost uniformly covered by inconspicuous ashy or dusky pubescence; in male antennae reach metacoxae, in female reach apex metepisternum; in male lengths antennomere III/scape 1.20, in female 1.14; in male rostrum width/length 2.30, in female 2.25; in male width of one inferior lobe of eyes/interocular distance 1.77, in female 1.00; in male prothorax widest well before middle (prothoracic quotient 3.30), in female 2.81; in female base of prosternal process about one seventh (0.14) width of coxal cavity; in male lengths elytra/forebody 1.08, in female 1.12; in male length of elytra/width of humeri 2.70, in female 2.60; in male lengths mesosternum/metasternum 1.10, in female 0.77; in male widths of mesocoxal cavity/base of mesosternal process 0.42, in female 0.60; in male metatarsomere I/II+III 1.04, in

- female 1.15. Male 20.7 mm. (Fig. 39). Female 21.8 mm. (Fig. 40). Guatemala, Honduras
 ***A. velutina* (Bates, 1885) comb. nov.**
- In male abdomen subtype 1Bb, but narrow, and urosternite V elongate (Fig. 65), in female resembles male, but broader; pronotum almost uniformly covered by inconspicuous ashy pubescence, basal constriction with band of denser pale yellow pubescence; antennae reach metacoxae in both sexes; in male lengths antennomere III/scape 1.47, in female 1.21; in male rostrum width/length 2.31, in female 2.90; in male width of one inferior lobe of eyes/interocular distance 1.92, in female 1.21; in male prothorax widest before middle (prothoracic quotient 3.50), in female 3.55; in female base of prosternal process about one sixteenth (0.06) width of coxal cavity; in male lengths elytra/forebody 1.03, in female 1.08; in male length of elytra/width of humeri 2.49, in female 2.44; in male lengths mesosternum/metasternum 0.84, in female 0.91; in male widths of mesocoxal cavity/base of mesosternal process 2.4, in female 2.1; in male metatarsomere I/II+III 1.13, in female 1.21. Male 15.9 mm. (Fig. 31). Female 22.1 mm. (Fig. 32). W and SE Mexico-Honduras ***A. acutipennis* (Thomson, 1860) comb. nov.**
- 5(3). Pronotum almost uniformly covered by inconspicuous ashy pubescence, basal and apical constrictions with band of denser, pale yellow pubescence; in male antennae reach middle of urosternite I, in female reach metacoxae; in male lengths antennomere III/scape 1.32, in female 1.24; in male rostrum width/length 2.46, in female 2.53; in male width of one inferior lobe of eyes/interocular distance 1.70, in female 0.94; in male prothorax widest well before middle (prothoracic quotient 2.62), in female 2.86; in male base of prosternal process about one eighth (0.12) width of coxal cavity, in female 0.10; in male lengths elytra/forebody 0.84, in female 0.82; in male length of elytra/width of humeri 2.18, in female 2.10; in male lengths mesosternum/metasternum 1.14, in female 0.84; in male metatarsomere I/II+III 1.23, in female 1.27. Male 15.7 mm. (Fig. 41). Female 18.4 mm. (Fig. 42). S Mexico (Chiapas, Campeche, Quintana-Roo, Yucatán) ***A. yucateca* (Bates, 1892) comb. nov.**
- Pronotum almost uniformly covered by inconspicuous ashy pubescence, basal and apical constrictions with narrow band of denser, ashy pubescence; in male antennae reach middle of urosternite I, in female reach apex metasternum; in male lengths antennomere III/scape 1.33, in female 1.25; in male rostrum width/length 2.25, in female 2.57; in male width of one inferior lobe of eyes/interocular distance 1.58, in female 1.13; in male prothorax widest well before middle (prothoracic quotient 2.90), in female 2.50; in male base of prosternal process about one twelfth (0.08) width of coxal cavity, in female 0.10; in male lengths elytra/forebody 1.01, in female 1.07; in male length of elytra/width of humeri 2.70, in female 2.60; in male lengths mesosternum/metasternum 1.14, in female 1.00; in male metatarsomere I/II+III 1.06, in female 1.07. Male 19.0 mm. (Fig. 35). Female 18.4 mm. (Fig. 36). W Mexico (Sinaloa, Nayarit, Jalisco) ***A. parva* (Chemsak and Linsley, 1979) comb. nov.**

Key to the Group 2 species of *Ameriphoderes* new genus

1. Pronotum usually with moderately broad scalloped band of golden or brassy pubescence on apical and basal halves; in males rostrum width/length 2.60-3.30, in females 2.30-3.25; in males width of one inferior lobe of eyes/interocular distance 2.1-2.9; elytra type variable; not very long and narrow, in males length/width humeri 2.87-3.65, in females 2.84-3.50; in males abdominal process moderately inclined to abdomen (10-60°), in females (0-20°) **2**
- Pronotum with broad, scalloped band of brassy pubescence across basal third and apical half; in male rostrum width/length 2.29, in female 2.19; in male width of one inferior lobe of eyes/interocular distance 5.30; elytra subtype 5A, very long and narrow, in male length/width humeri 4.04, in female 4.06; in both sexes abdominal process with 70° inclination. Male 20.2 mm. (Fig. 45). Female 18.0 mm. (Fig. 46). Costa Rica, Panama
 ***A. bayanicus* (Giesbert, 1991) comb. nov.**
- 2(1). Pubescent bands on pronotum not connected by longitudinal bands of golden pubescence (but see male *A. magna* with connecting bands of brassy pubescence); in males prothorax length/width

- 1.06-1.10, and pronotal calli punctate, smaller, and not prominent; elytra subtype 5A, in males length of elytra/width humeri 3.20-3.65, in females 3.22-3.50; in males lengths elytra/forebody 1.26-1.46, in females 1.25-1.55; in males lengths mesosternum/metasternum 0.63-0.76, in females 0.67-0.74; in males lengths forebody/abdomen 0.62-0.79, in females 0.68-0.96; in males abdomen subtype 2B (Fig. 93, 95, 97), and abdominal process moderately inclined to abdomen (10-45°), in females 10-40°; hindleg subtype 3B, in males lengths clava/peduncle 0.70-1.00, in females 0.78-1.00; in males metatarsomere I/II+III 1.19-1.52, in females 1.21-1.44 **3**
- Basal fifth and apical third of pronotum with band of golden pubescence, these bands connected by a narrow, longitudinal band of golden pubescence to either side of midline; in male prothorax length/width 1.19, and pronotal calli almost impunctate, large, and prominent; elytra subtype 4B, rather broad throughout, in male length of elytra/width humeri 2.87, in female 2.84; in male lengths elytra/forebody 1.09, in female 1.16; in male lengths mesosternum/metasternum 0.83, in female 0.73; in male lengths forebody/abdomen 0.81, in female 0.98; in male abdomen subtype 2A (Fig. 87), and abdominal process more strongly inclined to abdomen (60°), in female flat; hind leg subtype 1B, in male lengths clava/peduncle 1.8, in female 1.50; in male metatarsomere I/II+III 1.00, in female 1.14. Male 18.0 mm. (Fig. 43). Female 14.7 mm. (Fig. 44). W Mexico (Sinaloa-Jalisco, Oaxaca) ***A. amoena* (Chemsak and Linsley, 1979) comb. nov.**
- 3(2). Pronotum with or without bands of golden pubescence; in female tegument predominantly orange or rufous in color; sides of pronotum not regularly arced from front margin to hind margin, and basal and apical constrictions deep; in both sexes antennae do not pass urosternite I; in males lengths antennomere III/scape 1.34-1.36, in females 1.24-1.36; in males rostrum width/length 2.60-2.79, in females 2.30-2.67; in males width of one inferior lobe of eyes/interocular distance 2.10-2.25, in females 0.59-0.72; in males lengths elytra/forebody 1.37-1.46, in females 1.26-1.47; in males lengths forebody/abdomen 0.62-0.65, in females 0.80-0.96; in males lengths mesosternum/metasternum 0.70-0.76, in females 0.67-0.74; in males widths of mesocoxal cavity/base of mesosternal process 3.5-3.8 **4**
- Basal and apical thirds of pronotum with broad, scalloped band of golden or brassy pubescence; in female tegument black; sides of pronotum almost regularly arced from front margin to hind margin, and basal and apical constrictions shallower; in male antennae reach urosternite II, in female apical third of I; in male lengths antennomere III/scape 1.45, in female 1.43; in male rostrum width/length 2.80, in female 3.13; in male width of one inferior lobe of eyes/interocular distance 2.43, in female 0.92; in male lengths elytra/forebody 1.26, in female 1.25; in male lengths forebody/abdomen 0.79, in female 0.81; in male lengths mesosternum/metasternum 0.63, in female 0.70; in male widths of mesocoxal cavity/base of mesosternal process 3.5, in female 0.29. Male 16.9 mm. (Fig. 47). Female 14.2 mm. (Fig. 48). W Mexico (Durango, Jalisco, Nayarit) ***A. cribricollis* (Bates, 1892) comb. nov.**
- 4(3). In male basal third and apical half of pronotum with fine recumbent pubescence, the latter brassy or brown, in female pubescence golden, and basally confined to constriction; in male sides of prothorax angular and widest in front of middle, in female sides overhung by lateral calli and widest well before middle; pronotum tumid (but basal and apical constrictions not exceptionally declivous); densely punctured in male, rather sparsely in female, black in male, orange and furnished with two oblique fascia in female; in both sexes antennae reach apex of urosternite I; in male rostrum width/length 2.60, in female 2.30; in male width of one inferior lobe of eyes/interocular distance 2.3, in female 0.72; in male base of prosternal process about one twelfth (0.08) width of coxal cavity, in female 0.09; sides of elytra dusky, and without triangular black fascia bordering scutellum; in both sexes abdominal process weakly inclined to abdomen (10°); legs with entirely orange femora; in male ratio lengths front/middle/hind legs 1.0:1.3:2.7, in female 1.0:1.4:2.9; in male apex of metafemora reaching basal third of urosternite IV; in male length of metafemoral clava 0.73 length of peduncle, in female 0.78; metatibia with moderate sized, orange brush; in male metatarsomere I/II+III 1.45, in female 1.44. Male 26.8 mm. (Fig. 49). Female 22.5 mm. (Fig. 50). S Mexico (Chiapas) ... ***A. magna* (Giesbert, 1991) comb. nov.**

- Golden pubescence on pronotum restricted to apical and basal constrictions; in male prothorax widest near middle, in female well before middle; sides rounded in both sexes, but in female overhung by very tumid disc (resulting in exceptionally deep and declivous apical and basal constrictions); pronotum densely punctured in both sexes; in male black (with median and lateral calli rufous), in female rufous (with black basal and apical constrictions); in male antennae reach basal third of urosternite I, in female metacoxae; in male rostrum width/length 2.79, in female 2.67; in male width of one inferior lobe of eyes/interocular distance 2.1, in female 0.59; in male base of prosternal process about one fifth (0.22) width of coxal cavity, in female 0.26; elytra with ochraceous sides and black, triangular fascia bordering scutellum; in male abdominal process more strongly inclined to abdomen (45°) than in female (30°); legs with orange and black femora; in male ratio lengths front/middle/hind legs 1.0:1.4:2.4, in female 1.0:1.4:2.6; in male apex of metafemora reaching apical third urosternite III; in male metafemoral clava as long as peduncle, in female 0.96; metatibia without brush; in male metatarsomere I/II+III 1.19, in female 1.21. Male 23.1 mm. (Fig. 51). Female 25.9 mm. (Fig. 52). W Mexico (Colima) ***A. prolixa* (Chemsak and Linsley, 1979) comb. nov.**

Genus *Ameriphoderes* species sample data

***Ameriphoderes acutipennis* (Thomson, 1860) comb. nov.**

(Fig. 31, 32)

Acyphoderes acutipennis Thomson, 1860: 179; Monné 2005: 454 (cat.).

Species Concept. Based on Tippmann material in the USNM collection, and compared with the holotype picture of Bezark (2010).

Measurements (mm). 1 male/1 female, total length, 15.9/22.1; length of prothorax, 2.45/3.55; width of prothorax, 2.10/3.10; length of elytra, 6.10/9.15; width at humeri, 2.45/3.75.

Material analyzed. MEXICO, Verebélyi, 1 male, Tippmann coll. '57 #213112 (USNM); 1 female (Tippmann det *A. suavis*), C. Müller collection, Tippmann coll. '57, Wien col. (#213112, USNM).

Comment. A specimen in the USNM collection (MEXICO, Colima, Vulkan Colima, 1 female, 10.III.1918, Joh. Laue col., Tippmann coll. '57, (#213112), incorrectly identified as *A. acutipennis*, appears to be an unknown species between *A. acutipennis* and *A. velutina*. The specimen, a female, has a very characteristic abdomen with very wide apical segments; a search for a male specimen from Vulkan Colima might clarify its status.

***Ameriphoderes amoena* (Chemsak and Linsley, 1979) comb. nov.**

(Fig. 43, 44)

Acyphoderes amoena Chemsak and Linsley, 1979a: 74, fig. 3; Monné 2005: 454 (cat.).

Species Concept. Based on the original description and illustration, and comparison of material in the USNM and ACMT collections with the paratype picture of Bezark (2010).

Measurements (mm). 2 males/1 female, total length, 14.4-18.0/14.7; length of prothorax, 2.50-3.10/2.75; width of prothorax, 2.35-2.60/2.40; length of elytra, 7.35-8.90/7.80; width at humeri, 2.45-3.10/2.75.

Material analyzed . MEXICO, Jalisco, Chamela, vic. UNAM, 1 male and 1 female, 9-19.VII.1993, J. Wappes col. (ACMT/USNM).

Material examined. MEXICO, Jalisco, Chamela, vic. UNAM, 1 male, 9-19.VII.1993, J. Wappes col. (USNM).

***Ameriphoderes ayalai* (Chemsak and Linsley, 1988) comb. nov.**

(Fig. 33, 34)

Acyphoderes ayalai Chemsak and Linsley, 1988: 124; Monné 2005: 454 (cat.).

Species Concept. Based on the examination of three paratypes in the EMEC collection.

Measurements (mm). 4 males/5 females, total length, 11.2-16.2/14.7-17.15; length of prothorax, 2.05-2.60/2.55-2.75; width of prothorax, 1.85-2.35/2.55-2.65; length of elytra, 4.45-5.55/5.90-6.40; width at humeri, 1.85-2.35/2.60-2.85.

Material analyzed. MEXICO, Jalisco, Est. Bio. Chamela, on flowers of *Erythroxylum havanensis*, 1 male, 25.VI.1991, F. A. Noguera col. (EMEC 202,777); ditto, 1 female, 25.VI.1991, J. & K. Ribardo col. (EMEC 202,778).

Material examined. Paratypes, MEXICO, Jalisco, Chamela, 1 male, 19.VI.1985, 1 male, 11.VII.1985, R. Ayala col. (EMEC 202,771-772); 28 km N. Chamela, 1 female, 16-19.VII.1987, J. Cope col. (EMEC 202,773); Chamela, 1 male and 1 female, 11.VII.1985, R. Ayala col. (EMEC 202,774-775); Careyes, FAMN 713. S.I *Coccoloba* sp., 1 female, 29.VII.1988, F. A. Noguera col. (EMEC 202,776); Cuitzmala, 1 female, 4.VII.1991, R. Ayala col. (EMEC 202,779).

***Ameriphoderes bayanicus* (Giesbert, 1991) comb. nov.**

(Fig. 45, 46)

Acyphoderes bayanicus Giesbert, 1991: 381; Monné 2005: 455 (cat.).

Species Concept. Based on the original description and illustration, and comparison of material in the USNM collection with the paratype picture of Bezark (2010).

Measurements (mm). 1 male/1 female, total length, 20.2/18.0; length of prothorax, 2.60/1.65; width of prothorax, 2.35/2.40; length of elytra, 10.10/10.55; width at humeri, 2.50/2.60.

Material analyzed. PANAMA, Canal Zone, Barro Colorado Is. (9°10'S/79°50'W), 1 male, 11.VII.1977, and 1 female, 2.VII.1977, H. A. Hespeneheide col. (USNM).

***Ameriphoderes cribricollis* (Bates, 1892) comb. nov.**

(Fig. 47, 48)

Acyphoderes cribricollis Bates, 1892: 160, pl. 6, fig. 6; Monné 2005: 455 (cat.).

Species Concept. Based on the comparison of material in the ACMT and EMEC collections, and compared with the lectotype picture of Bezark (2010).

Measurements (mm) Nayarit-Jalisco specimens only. 7 males/1 female, total length, 13.8-17.3/14.2; length of prothorax, 2.25-2.60/2.05; width of prothorax, 1.95-2.40/1.90; length of elytra, 7.00-8.70/7.0; width at humeri, 2.15-2.70/2.00.

Material analyzed. MEXICO, Jalisco, Chamela, vic. UNAM, 1 female, 9-19.VII.1993, J. Wappes col. (ACMT); Nayarit, Arroyo Santiago nr. Jesus Maria, 1 male, 5.VII.1955, B. Malkin col. (EMEC 202,792).

Material examined. MEXICO, Chiapas, 9-12 km N Arriaga, 1 female, 18-26.VI.1987, J. Wappes col. (ACMT); Jalisco, Est. Bio. Chamela, 1 male, 20/27.VII.1984, J.A. Chemsak col. (EMEC 202,784); 3 males, 8/16.VII.1985, J. Chemsak, A. Katsura & E. Michelbacher col. (EMEC 202,785-787); Est. Bio. Chamela, 1 male, 14/22.VII.1992, J. A. Chemsak col. (EMEC 202,788/789); Oaxaca, 58 km SE Oaxaca, 1 male, 13.VII.1952, E. F. Gilbert col. (EMEC 202,793); Veracruz, Cotaxtla, Cotaxtla Exp. Sta., 1 male, 26.VI.1962, D. H. Janzen col. (EMEC 202,7909); ditto, 1 male and 1 female in cop. (EMEC 202,791).

Comment. Bates described *A. cribricollis* from western Mexico, DURANGO; author's male (specimen A) from NAYARIT (adjacent to Durango and, therefore, assumed to correspond to Bates' species) has tegmen Type 3e, but with longer lateral lobes. Author's male from eastern Mexico, VERACRUZ (specimen B), also has tegmen Type 3e, but with shorter lateral lobes. Specimens from the western Mexico to Costa Rica, are most likely to be *A. cribricollis* Bates. Those from Veracruz (author's specimen B) may be different species or subspecies. And, specimens from Oaxaca may be in-between (unfortunately the single male available to the author is not suitable for the preparation of its genitalia). Someday, someone with a good series of specimens from all three areas will be able to resolve these uncertainties.

***Ameriphoderes magna* (Giesbert, 1991) comb. nov.**

(Fig. 49, 50)

Acyphoderes magna Giesbert, 1991: 381, fig. 1; Monné 2005: 456 (cat.).

Species Concept. Based on the original description and illustration, and two paratypes in the ACMT collection.

Measurements (mm). 1 male/1 female, total length, 26.8/22.5; length of prothorax, 3.75/3.15; width of prothorax, 3.45/3.35; length of elytra, 13.40/12.9; width at humeri, 3.75/3.65.

Material analyzed. Paratypes, MEXICO, Chiapas, Parque Aguacero, 1 male and 1 female, 20-23.VI.1987, J. Wappes col. (ACMT).

***Ameriphoderes parva* (Chemsak and Linsley, 1979) comb. nov.**

(Fig. 35, 36)

Acyphoderes parva Chemsak and Linsley, 1979: 79, fig. 5; Monné 2005: 456 (cat.).

Species Concept. Based on the comparison of material in the ACMT collection with the holotype picture of Bezark (2010).

Measurements (mm). 1 male/1 female, total length, 19.0/18.4; length of prothorax, 3.20/3.05; width of prothorax, 2.85/3.00; length of elytra, 8.15/7.75; width at humeri, 3.00/3.00.

Material analyzed. MEXICO, Guerrero, Hwy. 200, 21 km N. Ixtapa, 1 male and 1 female, 17-22.VII.1985, J. Wappes col. (ACMT).

***Ameriphoderes prolixa* (Chemsak and Linsley, 1979) comb. nov.**

(Fig. 51, 52)

Acyphoderes prolixa Chemsak and Linsley, 1979a: 78; Monné 2005: 456 (cat.).

Species Concept. Based on the original description and illustration, and the examination of three paratypes in the EMEC collection.

Measurements (mm). 2 males/1 female, total length, 23.1-26.5/25.9; length of prothorax, 3.15-3.40/3.60; width of prothorax, 2.95-3.40/3.10; length of elytra, 11.50-13.40/14.15; width at humeri, 3.15-3.70/4.40.

Material analyzed. Paratypes, MEXICO, Colima, 10 miles W. Colima, 1 male and 1 female, 1.VIII.1954, M. Cazier & W. Gertsch Bradts col. (EMEC 202,814/816).

Material examined. As above, 1 male paratype (EMEC 202,815).

***Ameriphoderes suavis* (Bates, 1885) comb. nov.**

(Fig. 37, 38)

Acyphoderes sexualis Linsley, 1934a: 349; Monné 2005: 457 (cat.).

Species Concept. Based on comparison of material in the ACMT and EMEC collections with the holotype picture of Bezark (2010).

Measurements (mm). 4 males/13 females, total length, 16.3-27.0/16.5-26.2; length of prothorax, 2.55-3.80/2.40-3.70; width of prothorax, 2.25-3.30/2.40-3.65; length of elytra, 7.85-12.25/7.45-12.90; width at humeri, 2.60-3.80/2.40-4.15.

Material analyzed. MEXICO, Guerrero, Hwy. 200 21 km N. Ixtapa, 1 male, 17.VII 22-1985, J. Wappes col. (ACMT); Tamaulipas, 23 miles N. El Limon, 1 male, 9.VI.1951 (EMEC 202,832).

Material examined. COSTA RICA, Guanacaste, La Pacifica, 4 km NW Cañas, *Baltimora recta*, 1 female, 23.VI.1973, P. A. Opler col. (EMEC 202,838); Comelco, 8 km NW Bagaces, *Casearia nitida*, 1 female, 21.IV.1973, P. A. Opler col. (EMEC 202,839); Playas del Coco, 1 female, 16.VIII.1965, S. J. Arnold col. (EMEC 202,840); ditto, 3 females (EMEC 202,841/842/844). EL SALVADOR, 2 miles W Quezaltepeque, 1 male, 14.VII.1961, M. E. Erwin col. (EMEC 202,843). MEXICO, Guerrero, Hwy. 200 21 km N. Ixtapa, 1 male, 17.VII 22-1985, J. Wappes col. (ACMT); Jalisco, 15 km N Melaque, 1 female, 15/17.VII.1992, J. Chemsak col. (EMEC 202,834); Est. Bio. Chamela, 1 female, 8/16.VII.1985, J. Chemsak, A. Katsura & E. Michelbacher col. (EMEC 202,835); Sinaloa, Mazatlan, 5 miles N. Sin., ex *Jatropha curcas*, 1 female, 22.VII.1972, J. & M. A. Chemsak & M. & A. Michelbacher col. (EMEC 202,837); Tamaulipas, 7 miles S. Cd. Mante, 1 female, 20.IX.1974, G. Bohart & W. Hanson col. (EMEC 202,836); Veracruz, 4 miles S. La Tinaja, 1 female, 3.X.1975, J. Chemsak col. (EMEC 202,833).

***Ameriphoderes velutina* (Bates, 1885) comb. nov.**

(Fig. 39, 40)

Acyphoderes velutina Bates, 1885: 290, pl. 20, fig. 19; Monné 2005: 457 (cat.).

Species Concept. Based on the comparison of material in the ACMT and USNM collections with the holotype picture of Bezark (2010).

Measurements (mm). 1 male/1 female, total length, 20.70/21.75; length of prothorax, 3.30/3.10; width of prothorax, 3.10/3.10; length of elytra, 10.00/9.50; width at humeri, 4.20/3.65.

Material analyzed. GUATEMALA, Zacapa nr La Union km 25, 1 male, 17.IV.1990, J. Wappes col. (ACMT); Panzos, 1 female, Tippmann collection #213112 (USNM).

***Ameriphoderes yucateca* (Bates, 1892) comb. nov.**

(Fig. 41, 42)

Odontocera yucateca Bates, 1892: 159, pl. 6, fig. 7; Monné 2005: 457 (cat.).

Species Concept. Based on the comparison of material in the ACMT collection with the lectotype picture of Bezark (2010).

Measurements (mm). 1 male/1 female, total length, 15.7/18.4; length of prothorax, 2.75/3.00; width of prothorax, 2.40/2.85; length of elytra, 5.45/6.40; width at humeri, 2.50/3.00.

Material analyzed. MEXICO, Chiapas, Aguacero Park, 1 female, 16.X.1988, J. Wappes col. (ACMT); Quintana Roo, 20 km N. Carillo Pto., 1 male, 12-14.VI.1983, J. Wappes col. (ACMT).

Comment. Chemsak and Linsley (1979) included Chiapas in the distribution of this species; but the female from Chiapas examined by the author has a rather different habitus to that of the Quintana Roo male (pronotum less trapezoidal, weak pronotal calli, mesofemora much less tumid, and other less notable differences), and may not be conspecific. Examination of a Chiapas male's genitalia might resolve any doubt.

***Amerispheca* gen. nov.**

(Fig. 53, 54)

Type species. *Acyphoderes delicata* Horn, 1894, here designated by monotypy.

Etymology. The name of this genus, *Amerispheca*, refers to the vernacular American, meaning for the northern part of the New World; and "spheca", from the genus *Sphecomorpha* (meaning globe-shaped, from the Greek "sphaira") with which it shares the globose prothorax. Gender female.

Diagnosis. Prothorax Type 3, globose (not found in any other genera included in this revision). Elytra subtype 5A (only shared by most species of *Ameriphoderes* Group 2 species), but in *Amerispheca* elytra hide mesepimera, and among males are comparatively short, length/width across humeri 3.23 (in *Ameriphoderes* elytra do not hide mesepimera, and among males only *A. cribricollis* and *A. amoena* with short elytra), and in *Amerispheca* elytra reach middle of urosternite IV (in *Ameriphoderes* do not pass urosternite III). Abdomen subtype 2A (shared by most South American species, but only shared by *Ameriphoderes amoena* among Mesoamerican species), but in *Amerispheca* urosternite IV as long as II and III, and V transverse (in *A. amoena* IV distinctly shorter than II, and shorter than III, and V slightly elongate). Hind legs subtype 3Bb (shared by *Acyderophes*, *Ameriphoderes magna* and *Brachyphoderes*), but in *Amerispheca* metatibiae with rufous brush (in *Ameriphoderes magna*, a much larger species, the brush is orange; in *Acyderophes* black, and in *Brachyphoderes* brownish).

Aedeagus with subtype 3d tegmen (shared by *Ameriphoderes amoena*, *A. cribricollis* and *Anomaloderes*), but in *Amerispheca* the lateral lobes are short and rather narrow, slightly more separated at base, and curving towards each other towards apex (in the two species of *Ameriphoderes* the lobes are longer, broader, approximate at base, and parallel sided; and in *Anomaloderes* the lobes are much broader). Median lobe Type 2, but in *Amerispheca* shorter than in any other acyphoderine.

Description of genus (female not seen). Medium sized (17.6-19.4 mm); somewhat compact, but elegant species (generally similar to *Ameriphoderes* Group 2 species); forebody 0.79 length of abdomen.

Head with eyes narrower than width of prothorax (width prothorax/head 1.07). Rostrum moderately long and wide (width/length 2.92). Maxillary palps short; apical palpomeres subcylindrical (with well rounded sides), and truncate at apex; galea rather short. Labrum rather small and transverse, about two times wider than long; front margin emarginate and declivous; sides rounded; disc impunctate. Clypeus flat, slightly inclined to labrum, and hardly wider; nearly glabrous and impunctate; and separated from frons by weak transverse depression. Frontal suture just traceable through dense punctures, short (lying between middle of inferior lobes).

Inferior lobes of eyes relatively small and round, very slightly longer than wide; and rather widely separated; width of one lobe/interocular distance 1.31. Distal margins of inferior lobes lying on frons; proximal margins almost truncate.

Superior lobes moderately small, and rather weakly narrowed laterally (to two-thirds their mesal width); widely separated (more so than any species of *Ameriphoderes*, including females), the distance between them/width of one lobe 3.2; with relatively large ommatidia, arranged in approximately 11 rows.

Mentum-submentum represented by well demarcated, transverse area, about 2.3 wider than long; the surface multicarinate (the carinas confused, with small elliptical areas), and punctured (the punctures moderately small and subalveolate, and usually situated in these ellipsoids).

Antennal tubercles moderately small, rounded at apex, but moderately prominent; the distance between them/width of scape 2.75.

Antennae short, reaching apical third of urosternite I; incrassate; scape subcylindrical; antennomere III filiform, only moderately narrow, 1.50 longer than scape; IV subcylindrical, half length of III; V elongate and subcylindrical, distinctly shorter than III, longer than IV, and slightly shorter than VI; VI narrow at base, hardly wider than V at apex, equal in length to VII; VI-X moderately strongly serrate, and incrementally wider; VII-X broad at base, and incrementally shorter (X subquadrate); XI as long as X, but much narrower, and with moderately small, narrow, apical cone.

Prothorax Type 3, unique among the acyphoderines (but reminiscent of some species of *Sphecomorpha*); sides regularly rounded from apex to basal constriction. Front margin (f) slightly narrower than hind margin (h), f/h 0.95. Sides widest further behind middle than any other genus included in this revision (prothoracic quotient 1.66). Surface of pronotum convex, hardly irregular; lateral calli rather broad; median callus somewhat evanescent, all of them hardly projecting (but marked by slightly glistening, and larger punctures than those on rest of pronotum); apical constriction evanescent, basal constriction unusually narrow, and not deep.

Prosternum not declivous, but well inclined to prosternal process; and front border abruptly raised. Prosternal process arched; base of process narrow, 4.3 times narrower than width of procoxal cavity; apex moderately small and trapezoidal (declivous adjacent to apical margin, to leave the latter planar with mesosternal surface). Procoxal cavities plugged at sides, closed behind.

Mesosternum abrupt and deep; base of mesosternal process flat and moderately wide, mesocoxal cavity/base of process 3.2; apex of process not elaborate, not widened, nor elevated, but with deep, V-shaped excavation. Mesocoxal cavity moderately widely open to epimeron.

Length of mesosternum/metasternum 0.51.

Elytra subtype 5A. Flat and subfissate for apical two thirds; relatively long and rather broad to apex (length/width 3.23); apex rather rounded, reaching middle of urosternite IV. Humeri rounded, not projecting, and hardly prominent. Each elytron with rather ill-defined translucent panel, since all of elytra, including base and sides, pale in color.

Metathorax not as broad, nor as strongly rounded as in most species of *Ameriphoderes*, almost rectangular, the sides subparallel, and weakly converging towards apex; apical margin almost truncate. Metasternum tumid posteriorly, but rather strongly and broadly flattened towards base (nevertheless, disc more prominent than mesocoxae); and longitudinal suture shallow, but broad and long. Metepisternum weakly convex; rather narrowly cuneate, the sides subparallel to beyond middle, before tapering to subacuminate apex.

Abdomen subtype 2A (Fig. 54). Rather fusiform; urosternites II-IV slightly elongate; II widest; base of V hardly narrower than apex of IV. Male urosternite V subquadrate, weakly trapezoidal; soleate depression evanescent, but change in plane of sternite's surface (slightly flattened ventrally, depressed between slightly raised sides towards apex), suggestive of a feint horse-shoe print; apical margin characteristic, somewhat abruptly and deeply emarginate, to leave it almost bilobed; and sides projecting and subacute when viewed laterally. Male abdominal process not strongly inclined, *ca.* 30° slope (but surface of urosternite I raised towards base and coalescent with base of process); its apex with short, broad, recurved extension.

Apical tergite moderately elongate (but apex not overlapping apex of urosternite V), cylindrical, convex, and slightly emarginate at apex.

Legs. Ratio length front/middle/hind leg 1.0:1.3:2.6.

Front and middle legs short (body length/length of legs 2.9 and 2.3, respectively); not strongly pedunculate-clavate.

Front leg. Profemoral clave modestly broad and abrupt, not tumid mesally. Protibia slightly shorter than profemur; gradually widening to apex; apex rather abruptly widened laterally (leaving a subacute projection), apico-lateral margin oblique.

Middle leg. Length of mesofemur/width mesofemoral clave 3.8; mesofemoral clave somewhat flattened mesally (when viewed from above). Mesofemur 1.30 longer than mesotibia. Mesotibia moderately slender, gradually and weakly widening to apex.

Hind leg subtype 3Bb (Fig. 107). Rather long (body length 1.1 longer than leg); femoral clave weakly abrupt, and moderately strongly narrowed at apex; the latter reaching basal third of urosternite IV; femoral peduncle narrow and long (length clave/peduncle 0.91). Metatibia bent inwards, but not sinuate, for apical half (when viewed from above); slightly shorter than metafemora, moderately elegant and narrow; straight for basal half, considerably thickened for apical half; apical half with modest (rather short-haired), dense, rufous colored brush. Metatarsus rather long, 0.5 length of metatibia; metatarsomere I almost cylindrical, moderately robust, long, I/II+III 1.3; II trapezoidal, broad, but moderately short; III lobes small, rather short, somewhat rounded and divergent.

Male genitalia. Aedeagus Type 3 (Fig. 133). Tegmen subtype 3d, lateral lobes short and rather narrow and short (length/width 4.0), and weakly converging towards apex. Median lobe Type 2, broad and very short, length 1.7 mm; and weakly arced.

Surface ornamentation/pubescence. On upper side notably dense, recumbent, pubescence absent, but not at all glabrous. Head (on frons) and pronotum almost entirely furnished with very dense subrecumbent, yellowish pubescence. Elytra almost glabrous; but somewhat uniformly (including translucent panels), with scattered, rather short, erect, pale hairs.

Antennal scape, pedicel, and antennomeres III-VI with rufous setae on meso-ventral surface; on scape and antennomeres III, V, and VI, with fringe of moderately short setae; IV with fringe of longer setae.

Legs clothed with fine, pale-colored hairs, apart from metatibiae, somewhat weakly so; tarsi more densely pubescent.

On underside notable pubescence limited to mesepimeron and adjacent margin of mesosternum (dense, recumbent, pale golden hairs). Similar, but less notable (as less dense) pubescence covering base of metasternum, and scattered patches along midline and middle of apex; and covering apex of metepisternum. Prosternum with somewhat long, moderately dense, recumbent, ashy hairs. Abdomen almost uniformly clothed with, somewhat sparse and long, pale hairs, becoming denser laterally.

Surface ornamentation/puncturation. On upper side head and pronotum entirely and densely (rugosely) punctured (only absent on labrum and clypeus), the punctures deep, confluent and semi-alveolate, with larger ones embedded in a matrix of smaller ones.

Elytra generally somewhat sparsely punctate (more so on translucent panels, and between humeri almost impunctate); a single row of very small punctures adjacent to sutural border; and dense, rather large punctures situated at elytral apex; and epipleur with 2-3 rows of small, but deep and confluent, punctures.

Puncturation on underside partially hidden by pubescence. Prosternum with dense mix of larger subalveolate and simple micropunctures, the larger ones embedded in a matrix of smaller ones, to leave the surface rugose; mesosternum micro-punctate at middle, and narrow transverse patch of small and slightly larger punctures adjacent to postcoxal process of prosternum, and smoother area towards sides with scattered, small, shallow punctures; metasternum with confluent, small alveolate punctures, appear to be mixed with smaller and larger, simple ones on basal third, towards apex the same mix of punctures becoming much sparser and somewhat beveled; metepisternum, mesally with group of confluent, small punctures at base, and double row of sparser, larger, beveled punctures adjacent to mesal margin; the remaining surface smooth with scattered, shallow, beveled, large punctures. Abdomen almost uniformly punctate, denser at sides (and sparser on urosternite I, denser at sides and all of V), with moderately large, shallow, beveled punctures mixed with smaller ones; on urosternites V becoming smaller and confluent with reticulate interstices.

Genus *Amerispheca* species sample data

***Amerispheca delicata* (Horn, 1894) comb. nov.**

(Fig. 53, 54)

Acyphoderes delicatus Horn, 1894: 400.

Acyphoderes delicata; Linsley 1942: 54; Monné 2005: 455 (cat.).

Species Concept. Based on material in the EMEC collection, and comparison with the holotype picture of Bezark (2010).

Measurements (mm). 2 males, total length, 17.6-19.4; length of prothorax, 2.90-3.10; width of prothorax, 3.00-3.10; length of elytra, 9.70-10.35; width at humeri, 3.00-3.00.

Material analyzed. MEXICO, Baja California Sur, Sa. Victoria, trail La Burrera-La Laguna ridge, 1200-1350 m, 1 male, 28.VIII.1977, R. L. Westcott col. (EMEC 202,795).

Material examined. As above, 1 male, 2.IX.1977 (EMEC 202,796).

***Brachyphoderes* gen. nov.**

(Fig. 16, 17)

Type species. *Acyphoderes longicollis* Chemsak and Noguera, 1993, here designated.

Etymology. The name of this genus, *Brachyphoderes* (from the Greek “brachus”, meaning short, with reference to the elytra); and “deres” (to recall its relationship to *Acyphoderes*). Gender female.

Diagnosis. Prothorax subtype 1B in *Brachyphoderes* (shared by *Acyphoderes* Group 3 species, and *Anomaloderes*), but in *Brachyphoderes* prothorax length/width 1.11-1.12, and prothoracic quotient 1.92-2.00 (in *Acyphoderes* Group 3 species prothorax length/width 1.16-1.24, and prothoracic quotient 2.88-2.95); and in *Brachyphoderes* prothorax obovate (in *Anomaloderes* subcylindrical). Elytra Type 1, short and cuneate (only shared with *Bromiades*); subtype 1B in *Brachyphoderes*, narrower, length/width 1.7-2.0, dehiscent from behind scutellum to apex, the latter subacuminate, and reaching apex of urosternite I (in *Bromiades* subtype 1A, broader, length/width 1.3, dehiscent only towards apex, the latter rounded, and not passing middle of urosternite I). Abdomen subtype 2B in *Brachyphoderes* (shared by most of *Ameriphoderes* Group 2 species), but in *Brachyphoderes* widest part of abdomen includes base of urosternite V; and sides delimiting soleate depression rounded (in *Ameriphoderes* widest part of abdomen at base of urosternite I or towards apex of IV; and sides of soleate depression steep and narrow). Hind leg subtype 3Bb in *Brachyphoderes* (shared by *Acyderophes*, *Ameriphoderes magna*, and *Amerispheca*), but in *Brachyphoderes* metatarsomere I 1.5-1.6 (in *Acyderophes* I/II+III 0.9), and in *Brachyphoderes* metatibia with brownish colored brush (in *Ameriphoderes magna* with orange colored brush, and *Amerispheca* with rufous colored brush); in *Brachyphoderes* aedeagus with subtype 2e tegmen (only shared by some species of *Sphecomorpha*).

Description of genus (female *B. longicollis* not seen). Medium sized (14.3-15.5 mm); somewhat compact, but elegant species; forebody 0.75-0.83 length of abdomen. Prothorax ovate.

Head with eyes narrower than width of prothorax (width prothorax/head 1.18-1.24). Rostrum moderately long and wide (width/length 2.23-2.50). Maxillary palps rather short; apical palpomeres subcylindrical (with hardly rounded sides), and truncate at apex; galea long. Labrum moderately small and transverse, about two times wider than long; front margin emarginate and declivous; sides rounded; disc minutely and sparingly punctate. Clypeus flat, slightly inclined to labrum, and hardly wider; nearly glabrous and impunctate; and separated from frons by weak transverse depression.

Frontal suture in female easily traceable through moderately dense punctures, long (lying between antennal tubercles and apical margin of inferior lobes).

Inferior lobes of eyes relatively large and round, slightly longer than wide in female; almost contiguous in male, rather widely separated in female; width of one lobe/interocular distance 5.33-6.40, in female 1.40. Distal margins of inferior lobes lying on frons; proximal margins oblique.

Superior lobes moderately small and rather weakly narrowed laterally (to about four fifths their mesal width); and moderately widely separated; the distance between them/width of one lobe in male 2.2, in female 2.6; with relatively large ommatidia, arranged in 14 rows.

Mentum-submentum represented by well demarcated, subquadrate area, about 1.5 wider than long; the surface multicarinate (the carinas confused, with small elliptical areas), and punctured (the punctures moderately small and subalveolate, and usually situated in these ellipsoids).

Antennal tubercles moderately small, rounded, and moderately prominent, the distance between them/width of scape 2.00-2.17 in male, 2.5 in female.

Antennae short, reaching middle of urosternite I (in male *B. longicollis* and female *B. dehiscens*), apex of I (in male *B. dehiscens*); subfiliform (all antennomeres narrow at base, V-X incrementally widened at apex); scape subcylindrical; antennomere III filiform, and narrow (slightly less so in *B. dehiscens*), 1.31-1.38 longer than scape; IV subcylindrical, slightly more than half length of III; V subcylindrical, shorter than III, longer than IV, V-X incrementally shorter; VI-X moderately strongly serrate (but the serrations clipped at apex); XI hardly longer than X, but narrower, with small, narrow apical cone.

Prothorax subtype 1B, somewhat depressed; moderately elongate (length/width 1.16-1.24); sides widest near middle, prothoracic quotient 1.92-2.08, sometimes slightly sinuate for basal half; front margin (f) slightly narrower than, or equal to, width of hind margin (h), f/h 0.93-1.00. Surface of pronotum convex, but rather broadly flattened down midline; lateral calli broad, median callus long and wide (the three calli hardly projecting, but marked by slightly glistening, and larger punctures than those on rest of pronotum); apical constriction evanescent, basal constriction narrow and relatively shallow.

Prosternum not declivous (but front border abruptly raised), and weakly inclined to prosternal process (in female surface slightly tumid adjacent to the latter); prosternal process weakly arched; base moderately narrow, in male 5-6 times narrower than width of procoxal cavity, in female 4 times narrower; apex moderately large and trapezoidal (declivous adjacent to apical margin, to leave the latter planar with mesosternal surface). Procoxal cavities plugged at sides, closed behind.

Mesosternum abrupt and deep; base of mesosternal process flat and moderately wide, in male mesocoxal cavity 2.80-3.00 wider than base of process, in female 2.29 wider; apex of process not strongly elaborated, somewhat widened and lobate (the lobes moderately divergent and separated by truncate incision, each lobe moderately broad and rounded at apex). Mesocoxal cavity moderately widely open to epimeron.

Length mesosternum/metasternum 0.59-0.66, in female 0.50.

Elytra subtype 1B. Apex unarmed, reaching apical quarter of urosternite I (in *B. longicollis*), and base of urosternite II (in *B. dehiscens*). Humeri hardly rounded, not projecting, and moderately prominent. Each elytron flat for apical half (but even to apex of epipleur slightly declivous); and with well defined translucent panel, the latter extending from base to near apex of elytron.

Metathorax moderately broad, but not as rounded as in most *Acyphoderes*-related genera (but see *Amerispheca*), almost rectangular (especially in female), the sides subparallel and weakly converging towards apex (slightly more converging in *B. longicollis*); apical margin weakly oblique.

Metasternum tumid, hardly flattened on disc (nevertheless, disc less prominent than mesocoxae); and longitudinal suture shallow and long. Metepisternum weakly convex; moderately broadly cuneate (more so in female), and regularly tapering to subacuminate apex.

Abdomen subtype 2B (Fig. 99). Strongly convex; moderately narrow, wider and fusiform in female (Fig. 100); apical segments not wider than basal segments (urosternites II and III widest in female); urosternites II-IV slightly elongate (II-V transverse in female). Male urosternite V slightly elongate, trapezoidal; base as wide as apex of IV (in *B. dehiscens*), wider than IV (in *B. longicollis*); soleate depression U-shaped; moderately deep, with rather broad sides raised towards middle; sides (viewed laterally) slightly projecting and subacute at apex; apical margin rounded and projecting.

Male abdominal process not strongly inclined, 15-30° slope (steepest in *B. dehiscens*); its apex with narrow, recurved extension; in female process planar with abdomen.

Apical tergite in male elongate (but apex not overlapping apex of urosternite V), cylindrical, strongly convex, and truncate at apex; in female subconical, hardly convex, apex subacuminate and rounded.

Legs. Ratio length front/middle/hind leg 1.0:1.2:2.5-2.7 (shortest in *B. longicollis*).

Front and middle legs short (body length/length of legs 2.8-3.1 and 2.4-2.6 respectively, shortest in *B. longicollis*); not strongly pedunculate-clavate.

Front leg. Profemoral clave modestly broad and abrupt, and tumid mesally. Protibia shorter than profemur (not much shorter in female); gradually widening to apex; apex rather abruptly widened laterally (leaving a subacute projection), apico-lateral margin oblique.

Middle leg. Mesofemur long, in males 1.39-1.45 length of mesotibia, in females moderately short, 1.28 length of mesotibia; length of mesofemur/width mesofemoral clave 3.10-3.87; clave abrupt, somewhat flattened mesally, and modestly broad, to considerably broader (in *B. longicollis*). Mesotibia slender, gradually and weakly widening to apex (in *B. longicollis* and in female *B. dehiscens*), very slender, narrow at base, and abruptly widened for apical half (in male *B. dehiscens*).

Hind leg subtype 3Bb (Fig. 107). Relatively long (body length 1.1-1.2 longer than leg); femora moderately pedunculate-clavate (more so in *B. dehiscens*); clave moderately abrupt, but not tumid, and moderately strongly narrowed at apex, the latter reaching basal quarter of urosternite IV (in male *B. longicollis* and female *B. dehiscens*), to apex of IV (in male *B. dehiscens*); femoral peduncle long, especially in female (length clave/peduncle 0.73-0.96). Metatibia almost straight (hardly bisinuate in males), to strongly sinuate (in female *B. dehiscens*), and not bent inwards (when viewed from above); slightly shorter than metafemora (in *B. dehiscens*), equal to metafemora (in *B. longicollis*); elegant and narrow; gradually thickened from base to modestly broad apex; apical half with short-haired, dense, brownish colored brush. Metatarsus moderately short, less than half length of metatibia. Metatarsomere I almost cylindrical, rather slender and long, I/II+III 1.5-1.6; II cylindrical, but broad and short, with parallel sides, and petiolate at base; III lobes moderately long, with straight, converging sides, and slightly divergent.

Male genitalia. Aedeagus Type 2 (Fig. 120, 121). Tegmen subtype 2e, lateral lobes (length/width 5.8-6.0) slightly to moderately divergent. Median lobe Type 1, rather narrow; relatively strongly arced, and rather short, length 1.8 mm.

Surface ornamentation/pubescence. Notable pubescence (discrete areas of dense, recumbent, metallic or brightly colored hairs) found in the genera included in this revision, is absent from *Brachyphoderes* (except for silver hairs on frons of *B. dehiscens*); but is replaced by a similar type (less dense, the hairs thinner, and dull ashy in color) in most of the specimens examined, in others almost absent, especially in females.

On the upper side similar, but shorter, pubescence entirely covering pronotum, except for the three calli on disc. On the underside found covering the mesepimeron and adjacent margin of mesosternum, most of the metasternum, base and lateral margin of metepisternum. In both species, as in nearly all *Acyphoderes*-like genera, prosternum with somewhat long, moderately dense, subrecumbent, untidy, ashy hairs; and abdomen almost uniformly clothed with, somewhat sparse, suberect, short, pale hairs, becoming shorter and denser laterally.

Elytra sparsely pubescent, the hairs pale and suberect, longer and denser at base of translucent panels, somewhat uniformly, sparser and shorter towards apex of panels; and on shoulders and epipleur the hairs very short.

Antennal scape, pedicel, and antennomeres III-VI with black setae on meso-ventral surface; on scape and antennomeres III, V, and VI, with fringe of moderately short setae; pedicel and IV with longer setae.

Legs clothed with fine, pale-colored hairs, apart from metatibiae somewhat weakly so; tarsi more densely pubescent, with black hairs (in *B. dehiscens*), yellow hairs (in *B. longicollis*).

Surface ornamentation/puncturation. On upper side of head and pronotum entirely and densely, rugosely punctured, the punctures deep, confluent and semi-alveolate, with larger ones embedded in a matrix of smaller ones. Elytra generally somewhat sparsely punctate, (more so on translucent panels, but dense between humeri); a single row of very small punctures adjacent to sutural border; and dense, rather large, confluent, subalveolate and alveolate punctures situated on shoulders (with 7 rows of punctures, separated by the interstices which join to form a smooth lattice); and epipleur with 2-4 rows of small and large, but deep, punctures.

Puncturation on underside partially hidden by pubescence. Prosternum with dense mix of small (large in female) subalveolate and simple micropunctures, the larger ones embedded in a matrix of smaller ones, to leave the surface rugose; on mesosternum micro-punctate at middle, and narrow transverse patch of small and slightly larger punctures adjacent to postcoxal process of prosternum, and sides with

dense, small, punctures (also somewhat rugose); on metasternum a dense matrix of small punctures and micro-punctures, appear to cover most of surface (in female base and sides similar to male, but on disc rather sparse, the punctures shallow, elliptical and beveled); on metepisternum the punctures rather dense mesally (in both sexes of *B. dehiscens*), to very dense mesally (in *B. longicollis*), moderately deep and simple (or alveolate in *B. longicollis*), with a mix of small and large ones (which laterally give the appearance of being micro-punctate).

Abdomen almost uniformly punctate (denser at sides and incrementally so towards apex, on urosternite I sparser), with moderately small, shallow, beveled punctures mixed with smaller ones (in *B. dehiscens* punctures at base of each segment less beveled); on urosternites V very dense, in *B. dehiscens* with group of micropunctures adjacent to apical border.

Key to the species of *Brachyphoderes* new genus based on males

(Female *B. longicollis* not seen. Chemsak and Noguera (1993) state that the pronotum of the females, and some males, are reddish. The metafemora of one of two female paratypes of *B. dehiscens* has rufous clave.)

1. Rostrum width/length 2.36; width of one inferior lobe of eyes/interocular distance 5.33; lengths antennomere III/scape 1.24; prothorax length/width 1.19; length of elytra/width at humeri 2.20; widths of mesocoxal cavity/base of mesosternal process 2.80; abdominal process moderately inclined to abdomen (30°); lengths of metafemoral clave/peduncle 0.81. Male 14.3 mm. (Fig. 29). El Salvador ***B. dehiscens* (Chemsak, 1997) comb. nov.**
- Rostrum width/length 2.50; width of one inferior lobe of eyes/interocular distance 6.40; lengths antennomere III/scape 1.31; prothorax length/width 1.27; length of elytra/width at humeri 1.74; widths of mesocoxal cavity/base of mesosternal process 3.00; abdominal process almost planar with abdomen; lengths of metafemoral clave/peduncle 0.96. Male 15.2 mm. (Fig. 28).W Mexico (Jalisco) ***B. longicollis* (Chemsak and Noguera, 1993) comb. nov.**

Genus *Brachyphoderes* species sample data

***Brachyphoderes dehiscens* (Chemsak, 1997) comb. nov.**

(Fig. 29, 30)

Acyphoderes dehiscens Chemsak, 1997: 15, fig. 1; Monné 2005: 455 (cat.).

Species Concept. Based on the original description and illustration, and examination of three paratypes in the USNM and EMEC collections

Measurements (mm). 1 male/2 females, total length, 14.3/15.5-17.0; length of prothorax, 2.50/2.60-2.75; width of prothorax, 2.10/2.25-2.45; length of elytra, 4.35/4.85-5.05; width at humeri, 2.15/2.45-2.65.

Material analyzed. Paratypes, EL SALVADOR, Vol. Conchagua, 1 male, 27-29.V.1958, O. L. Cartwright col. (USNM); ditto, 1 female (EMEC 202,794).

Material examined. Paratype, as above, 1 female, (EMEC 100,184).

***Brachyphoderes longicollis* (Chemsak and Noguera, 1993) comb. nov.**

(Fig. 28)

Acyphoderes longicollis Chemsak and Noguera, 1993: 80; Monné 2005: 456 (cat.). **Note.** In Monné (2005) the citation for this species is recorded as Chemsak and Noguera, 1995: 80; it should be 1993: 80.

Species Concept. Based on the original description and illustration, and examination of eight paratypes in the EMEC collection.

Measurements (mm). 8 males, total length, 12.0-15.6; length of prothorax, 2.10-2.60; width of prothorax, 1.65-2.15; length of elytra, 3.25-3.95; width at humeri, 1.70-2.20.

Material analyzed. Paratype, MEXICO, Jalisco, Est. Bio. Chamela, on *Paullinia* flowers, 1 male, 14.VII.1990 (EMEC 202,808).

Material examined. Paratypes, MEXICO, Jalisco, Est. Bio. Chamela, on *Paullinia* flowers, 6 males, 3-17.VII.1990 (EMEC 202,807/809-813); Est. Bio. Chamela, 1 male, 4.VII.1991, J. D. Mc Carty col. (EMEC 202,806); La Manzanilla, 1 male, 3.VII.1991, F. A. Noguera col. (EMEC 202,807).

Comment. Very similar to, but geographically distant from *B. dehiscens*. Tegmen of aedeagus very similar, lateral lobes of tegmen slightly longer and narrower, and more setose in *B. dehiscens* than in this species. However, specimens of *B. dehiscens* are few in number, and the data presented in the key for the identification of the two species requires the examination of more specimens to eliminate differences due to variation.

***Odontogracilis* gen. nov.**

(Fig. 55-60)

Type species. *Stenopterus gracilis* Klug, 1825, here designated.

Etymology. The name of this genus, *Odontogracilis* (to recall its relationship to the genus *Odontocera*); and that the species are gracile (from the Latin “gracilis”, meaning thin or slender). Gender male.

Diagnosis. As far as this revision is concerned, *Odontogracilis* should be considered an out-group genus, since it is probably more closely related to genera at present included among the odontocerines than to those among the acyphoderines; but has been included in this revision as it incorporates *Acyphoderes cracentis* and *Acyphoderes violaceus*.

It is not surprising, then, to find that the main diagnostic characters for this genus of graceful species (prothorax subtype 4C, elytra subtype 5B, abdomen subtype 2C, and hind Leg subtype 3C) are not shared by any other genus included in this revision.

Odontogracilis has a superficial resemblance to two other Rhinotragini genera, *Crossomeles* and *Monneus*; but *Odontogracilis* is readily separated from these two genera by the elongate elytra, length/width 3.2-4.1, and metafemora strongly pedunculate-clavate (in *Crossomeles* and *Monneus* elytra are short, width/length 1.7-2.0, and 2.5 respectively, and metafemoral clavae narrow and cylindrical).

Odontogracilis has a superficial resemblance to *Eclipta brevipennis* Melzer, 1934, but in *Odontogracilis* pronotum is urn-shaped, antennae more serrate and reach middle of elytra, and metafemora strongly pedunculate-clavate (in *Eclipta brevipennis* prothorax subcylindrical, antennae more filiform and almost reach apex of elytra, and metafemoral clavae weakly pedunculate-clavate).

Aedeagus with subtype 3b tegmen; also, not shared by any other genus included in this revision. Ironically, the structure of the tegmen in *Odontogracilis* (among the most delicate Rhinotragini), especially that of *O. cracentis*, is closest to that of *Ameriphoderes magna* (among the most robust Rhinotragini).

The irony of the above is somewhat intensified by the following observation; that the *Odontogracilis* tegmen, with its very long, narrow lateral lobes, is also found in *Sphecomorpha vespiventris* and some odontocerine-like new species (with long, narrow abdomens, but strongly widened apically), and *Ornistomus simulatrix* Clarke, 2012 (with moderately narrow, sessile abdomen), but none of these species could be described as particularly “graceful”. The lesson seems to be that long, narrow-lobed tegmen are not necessarily the off-spring of long, narrow abdomens, but apparently emerge at random; food for thought by an author employing the structure of the aedeagus as a primary diagnostic tool for generic revisions.

Description of genus (female of *O. cracentis* not seen). Medium to larger sized (14.7-20.9 mm) species, but narrow and elegant; forebody 0.48-0.80 length of abdomen (shortest forebody in male *O. cracentis* and *O. exilis*, longest in female *O. gracilis*).

Head with eyes usually slightly narrower than width of prothorax, but may be slightly wider than prothorax (in male *O. cracentis* and some females of *O. gracilis*); widths of prothorax/head 0.97-1.12. Rostrum moderately long and wide, width/length 2.14-2.70 (rostrum usually longest in females). Maxillary palps moderately long; apical palpomeres fusiform with weakly rounded sides, or subcylindrical (in *O. cracentis*), and truncate at apex; galea long and narrow. Labrum moderately large (smallest in female) and transverse, about two times wider than long; front margin emarginate and declivous; sides rounded; disc usually minutely and sparingly punctate. Clypeus flat, slightly inclined to labrum, and hardly wider; nearly glabrous and impunctate; and separated from frons by rather strong transverse depression. Frontal suture in female easily traceable through moderately dense punctures, long (lying between antennal tubercles and just beyond apical margin of inferior lobes).

Inferior lobes of eyes large, usually longer than wide (but more rounded in males of *O. cracentis* and *O. exilis*); subcontiguous in male, widely separated in female; in male width lobe/interocular distance 5.60-8.50, in female 0.72-1.21. Distal margins of inferior lobes lying on frons (on gena in female); proximal margins weakly oblique.

Superior lobes moderately large and rather strongly narrowed laterally (from one third to half their mesal width); and rather narrowly separated; the distance between them/width of one lobe 2.0-2.2; with relatively large ommatidia, arranged in 12-15 rows.

Mentum-submentum represented by well demarcated, subquadrate area, about 1.5 wider than long; the surface multicarinate (the carinas confused, with small elliptical areas), and punctured (the punctures moderately small to large and subalveolate, and usually situated in these ellipsoids).

Antennal tubercles rather small, rounded, but moderately prominent; the distance between them/width of scape in male 2.0-2.13, in female 1.63-2.22.

Antennae relatively long, in male reaching from base to middle of urosternite II, in female to middle of urosternite I; subfiliform, all antennomeres elongate and narrow at base (female somewhat more crassate); scape usually subpyriform to pyriform, or may be subcylindrical (in *O. cracentis*), and in female *O. exilis* slightly crimped near apex; antennomere III filiform; and narrow (slightly less so in *O. gracilis*), usually 1.47-1.67 longer than scape, but 1.83 longer than scape (in one male of *O. gracilis*); IV subcylindrical, usually about half length of III (one third length of III in one male of *O. gracilis*); V subcylindrical, distinctly shorter than III, much longer than IV, very slightly shorter or longer than VI (irrespective of sex); VII-X incrementally shorter; VI-X moderately strongly serrate (but the serrations clipped at apex); XI longer than X, usually more so in females, but narrower (or as wide in female *O. exilis*), with rather small apical cone.

Prothorax subtype 4C, elongate (shortest in *O. exilis* and *O. violaceus*); front margin (f) usually slightly narrower than hind margin (h), but as wide as hind margin (in both sexes of *O. exilis* and female *O. violaceus*), f/h 0.92-1.00; in male widest behind, or at middle (prothoracic quotient 1.83-2.00), in female well before middle (prothoracic quotient 2.61). Surface of pronotum convex, but irregular; lateral calli broad; median callus only moderately so (the latter in *O. exilis* somewhat effaced by corrugation); the three calli hardly prominent (more prominent in *O. gracilis*); apical constriction rather well defined, basal constriction broad and relatively shallow, especially at middle.

Prosternum characteristic, declivous across middle, the two halves very different in appearance; the apical half sloping towards, and almost planar with apical border (the surface smooth and glabrous, multicarinate, and almost impunctate); the basal half sloping towards base of prosternal process (the surface very densely punctate and pubescent). Prosternal process weakly arched; base of process moderately narrow, 6-9 times narrower than width of procoxal cavity; apex rather large and trapezoidal (declivous adjacent to apical margin, to leave the latter planar with mesosternal surface). Procoxal cavities plugged at sides, just closed behind.

Mesosternum almost abrupt and deep; base of mesosternal process flat and moderately wide, in males width of coxal cavity 3.8-4.0 wider than base of process, in females 2.5-2.8 wider; apex of process not strongly elaborate, somewhat widened and lobate, the lobes not strongly divergent, separated by small, V-shaped incision, and truncate at apex. Mesocoxal cavity moderately widely open to epimeron.

Length mesosternum/metasternum 0.6-0.7 in both sexes.

Elytra subtype 5B. Subfissate from before middle; long and narrow, length/width in male 3.55-4.08, in female 3.24-3.42; each elytron rather abruptly narrowed to level of metacoxae, then gradually tapering to subacuminate apex (in *O. gracilis*), or subparallel towards apex (with apical 1/7 somewhat lobed in *O. cracentis*, *O. exilis* and *O. violaceus*, and moderately divergent in the latter two species); apical margin unarmed, weakly truncate, reaching from apical third of urosternite II to base of III (in *O. cracentis*, *O. exilis* and *O. violaceus*), or from apical third of III to basal third of IV (in *O. gracilis*). Humeri rounded, not projecting, and weakly prominent (less so in *O. cracentis*). Each elytron flat from just behind humeri to apex (including epipleur); with well defined translucent panel, the latter extending from base to pre-apex.

Metathorax moderately broad (but not as strongly rounded as in *Ameriphoderes*, nor as straight-sided as *Amerispheca* and *Brachyphoderes*); the sides moderately rounded and weakly converging towards apex (where they form a well rounded angle with the oblique basal margin). Metasternum tumid, weakly flattened on disc (planar with mesocoxae); and longitudinal suture shallow and long. Metepisternum weakly convex; cuneate in males, subcuneate in females, moderately broad to broad (more so in *O. gracilis*); and regularly tapering to subacuminate apex.

Male abdomen subtype 2C (Fig. 56, 60). Strongly convex; slightly tapering from base of urosternite I to base of IV, then equally wide towards apex (in *O. gracilis*), or slightly wider towards apex (in *O. cracentis* and *O. exilis*). Male urosternite V elongate, cylindrical, almost rectangular; base as wide as apex of IV; soleate depression, EITHER occupying apical half of sternite, very shallow and U-shaped, the sides only raised at apex (in *O. gracilis*), OR occupying most of sternite's surface, moderately deep, with weakly raised sides (in *O. cracentis*), with sharply raised sides near middle (in *O. exilis*); apical margin rounded, or truncate (in *O. gracilis*), and apical angles square; sides (viewed laterally) not winged, nor projecting, but apex acute (in *O. cracentis* and *O. exilis*), or square (in *O. gracilis*).

Female abdomen unusually narrow for this sex (especially in *O. exilis* and *O. violaceus*); subcylindrical and fusiform; urosternite V subconical, short in *O. violaceus*, rather short in *O. exilis*, more elongate in *O. gracilis*, moderately convex (and bent downwards near apex in *O. exilis*), apical margin rounded.

Abdominal process similar in both sexes, a narrow isosceles triangle, not strongly inclined (*ca.* 30°), its apex with narrow, straight or recurved extension.

Apical tergite elongate (apex hardly overlapping apex of urosternite V), narrow and cylindrical, strongly convex, and truncate at apex; in female similar, but flatter, and rounded at apex; and shorter and more trapezoidal in *O. violaceus*.

Legs. Ratio length front/middle/hind leg 1.0:1.3-1.4:2.6-3.0.

Front and middle legs moderately short to long; body length/length of front leg 3.6-4.0 (3.0 in *O. gracilis*) and body length/length of hind leg 2.7-3.1 (2.2-2.4 in *O. gracilis* and *O. violaceus* respectively); and rather strongly pedunculate-clavate (especially in *O. gracilis*).

Front leg. Claves large and moderately broad, rather abrupt (when viewed from the side), and tumid mesally (when viewed from above). Protibia slightly shorter than profemur, or of equal length (in *O. cracentis*); rather narrow, gradually widening to apex; apex not widened laterally, apico-lateral margin oblique (weakly in *O. exilis*).

Middle leg. Mesofemur long in male, 1.39-1.44 longer than mesotibia, in female rather short, 1.20-1.36 longer than mesotibia; claves large, and moderately broad, or broad (in *O. cracentis*), length of mesofemur/width of clave 3.3-4.0 (when viewed from the side); and not noticeably flattened mesally (when viewed from above). Mesotibia slender, gradually and weakly widening to apex.

Hind leg subtype 3C (Fig. 109). Relatively long, body length/length of leg 1.1-1.3. Femora strongly pedunculate-clavate; clave strongly narrowed at apex (less so *O. gracilis*); apex of clave reaching from middle to apex of urosternite III (shortest in *O. cracentis* and female *O. exilis*, longest in male *O. gracilis*), or reaching apex of IV (in female *O. gracilis*); femoral peduncle narrow and exceptionally long, (length clave/peduncle 0.6-0.7). Metatibia straight (in *O. gracilis*), hardly sinuate (in *O. exilis* and *O. cracentis*) when viewed from above; shorter than metafemora, narrow and elegant; gradually thickened from base to moderately broad apex, and apical half rather densely setose (but not long enough to be considered a brush). Metatarsus rather narrow (broader in female); moderately short, from less than half length of metatibia (in *O. cracentis*, *O. exilis* and *O. violaceus*), to half length of metatibia (in *O. gracilis*). Metatarsomere I subcylindrical, rather long and slender, in male I/II+III 1.21-1.22, in female shorter, 1.17 (in *O. exilis* and *O. gracilis*), or longer, 1.33 (in *O. violaceus*); II trapezoidal, but long (in *O. cracentis*

and *O. gracilis*), and petiolate at base; III rather short and broad, with rounded sides, the lobes moderately divergent.

Male genitalia. Aedeagus Type 3 (Fig. 124-126). Tegmen Type 3b, lateral lobes very long and narrow (length/width 5.8-10.0), shortest and widest in *O. cracentis*, longest and narrowest in *O. gracilis*. Median lobe Type 2, rather narrower and shorter compared with most acyphoderines; length 1.5-2.1 mm (shortest in *O. exilis*).

Surface ornamentation/pubescence. Upper side (in males, not females) with somewhat notable pubescence, consisting of dense, recumbent, short hairs, ashy to silver in color, on frons (in *O. cracentis* and *O. exilis*), on pronotum partly hiding apical constriction (but in *O. cracentis* a broad scalloped band covering all of apical half, reminiscent of some species of *Ameriphoderes*), and more generally at sides of pronotum, on basal constriction, and scutellum. Elytra glabrous, or very nearly so.

On underside the same notable pubescence found covering the mesepimeron (and in female adjacent margin of mesosternum), basal half of metasternum, base and lateral margin of metepisternum (the rest of surface with scattered, thick, erect hairs of a golden color in *O. cracentis*). Prosternum with somewhat long, moderately dense, subrecumbent, untidy hairs (in *O. exilis* the hairs white, in *O. gracilis* brown, in *O. cracentis* golden). Abdominal pubescence with the same distribution as described for puncturation (see below); the hairs tan colored, very short, with 1-2 rows of longer ones adjacent to apical margin of each segment (in *O. gracilis*), or the hairs white in color, and slightly longer (in *O. cracentis* and *O. exilis*).

Antennal scape, pedicel, and antennomeres III-VI with black setae on meso-ventral surface; on apex of scape and antennomeres III, V, and VI, with fringe of moderately short setae; pedicel and fringe on IV with slightly longer setae.

Legs clothed with fine, black or pale-colored hairs, apart from metatibiae, somewhat weakly so; tarsi more densely pubescent, with black hairs (in *O. gracilis*), yellow to whitish hairs (in *O. cracentis* and *O. exilis*).

Surface ornamentation/puncturation. On upper side *Odontogracilis* differs from other Mesoamerican genera included in this revision by the comparatively less dense puncturation on head, pronotum, and elytra. Of the three species, only *O. cracentis* has dense patches of rather rugose punctures on the pronotum; in the other two the pronotum is sparsely punctured. Elytral punctures absent from the translucent panels; otherwise moderately dense (and beveled) on humeri (sparse between them); a single row of very small punctures adjacent to sutural border, and 1-3 rows of dense, slightly larger, contiguous, non-alveolate punctures on epipleur.

Puncturation on underside hardly hidden by pubescence. Prosternum with dense mix of small (larger in female) subalveolate and simple punctures embedded in a matrix of micropunctures, to leave the surface rugose (in *O. cracentis* and *O. exilis*); or the punctures uniform, larger, deep and sub-contiguous, with a network of micropunctate interstices (in *O. gracilis*). Mesosternum micro-punctate at middle; with narrow transverse patch of small and slightly larger punctures adjacent to postcoxal process of prosternum; and towards sides with a few scattered large punctures. Metasternum towards base, below dense pubescence, micropunctate with scattered small punctures; on glabrous areas, sparse (in *O. gracilis*) to dense (in *O. cracentis*), simple, shallow, beveled punctures (in female, lacking dense pubescence, uniformly covered by rather widely spaced punctures, these shallow, elliptic and beveled). Metepisternal punctures not beveled, small, round and shallow (in female uniformly, and very sparsely punctured); in male on mesal half rather sparse (and may be in rows), on lateral half almost absent, except along outer and apical margins (presumably very dense under the pubescence). Abdomen very similarly punctured in males of all three species; urosternite I sparsely punctate; II-IV incrementally denser, and denser towards sides (but never dense, not even at lateral margin); V densely punctured at base and sides, more sparse in soleate depression; in female uniformly, and even more sparsely punctate than in male.

Comment. The author was tempted to place *O. cracentis*, *O. exilis* and *O. violaceus* in a genus of their own (given their rather distinct body form and disjunct distribution); but would have needed to see more specimens before doing so.

Key to the species of *Odontogracilis* new genus based on males(Male of *O. violaceus* not known.)

1. Lengths forebody/abdomen 0.48-0.52; rostrum width/length 2.63-2.89; lengths antennomere III/scape 1.46-1.58; prothorax length/width 1.20-1.21; base of prosternal process much narrower (0.04-0.17) than width of procoxal cavity; length of elytra/width humeri 3.47-3.67; apex of elytra nearly reach apex of urosternite II; widths of mesocoxal cavity/base of mesosternal process 4.0-4.3; ratio lengths front/middle/hind legs 1.0:1.3:3.0 **2**
- Lengths forebody/abdomen 0.72; rostrum width/length 2.07; lengths antennomere III/scape 1.28; prothorax length/width 1.29; base of prosternal process half the width of procoxal cavity; length of elytra/width humeri 4.08; apex of elytra nearly reach apex of urosternite III; widths of mesocoxal cavity/base of mesosternal process 3.8; ratio lengths front/middle/hind legs 1.0:1.4:2.6. Male 19.3 mm. (Fig. 59). SE Brazil ***O. gracilis* (Klug, 1825) comb. nov.**
- 2(1). Antennae yellow, legs yellow and rufous; width of one inferior lobe of eyes/interocular distance 8.5; lengths antennomere III/scape 1.46; prothorax widest behind middle (prothoracic quotient 1.83); base of prosternal process about one sixth (0.17) width of procoxal cavity; length of elytra/width humeri 3.47; abdominal process weakly inclined to abdomen (30°); apex of metafemora reaching apical third of urosternite II; metatarsomere I/II+III 1.05. Male 17.3 mm. (Fig. 55, 56). W Mexico (Jalisco) ***O. cracentis* (Chemsak and Noguera, 1997) comb. nov.**
- Antennae and legs black; width of one inferior lobe of eyes/interocular distance 3.7; lengths antennomere III/scape 1.58; prothorax widest at middle; base of prosternal process about one seventh (0.14) width of procoxal cavity; length of elytra/width humeri 3.67; abdominal process almost vertical to abdomen (80°); apex of metafemora reaching apical fifth of urosternite III; metatarsomere I/II+III 1.21. Male 15.4 mm. (Fig. 57). S Mexico-Panama ***O. exilis* (Fisher, 1947) comb. nov.**

Key to the species of *Odontogracilis* new genus based on females(Female of *O. cracentis* not seen.)

1. Width of one inferior lobe of eyes/interocular distance 0.7-0.8; width between antennal tubercles/width scape 1.6-1.7; prothorax length/width 1.1; mesocoxal cavity 2.5-2.8 wider than base of mesosternal process; apex of elytra nearly reaching apex of urosternite II; length of elytra/width humeri 3.2-3.4; apex of metafemora reaching from middle to apex of urosternite III; hind leg 2.8-2.9 longer than front leg **2**
- Width of one inferior lobe of eyes/interocular distance 1.2; width between antennal tubercles/width scape 2.2; prothorax length/width 1.3; mesocoxal cavity 3.2 wider than base of mesosternal process; apex of elytra nearly reaching apex of urosternite III; length of elytra/width humeri 3.7; apex of metafemora reaching apex of urosternite IV; hind leg 2.6 longer than front leg. Female 20.9 mm. SE Brazil ***O. gracilis* (Klug, 1825) comb. nov.**
- 2(1). Lengths elytra/forebody 1.1; rostrum width/length 2.14; width of one inferior lobe of eyes/interocular distance 0.80; lengths antennomere III/scape 1.67; prosternum hardly declivous across middle; length of elytra/width humeri 3.24; metafemoral peduncle 1.3 longer than clavate; metatarsomere I/II+III 1.17. Female 17.4 mm. (Fig. 58). S Mexico-Panama ***O. exilis* (Fisher, 1947) comb. nov.**
- Lengths elytra/forebody 1.3; rostrum width/length 2.36; width of one inferior lobe of eyes/interocular distance 0.72; lengths antennomere III/scape 1.44; prosternum distinctly declivous across middle; length of elytra/width humeri 3.42; metafemoral peduncle 1.7 longer than clavate; metatarsomere I/II+III 1.33. Female 16.8 mm. Costa Rica ***Odontogracilis violaceus* (Santos-Silva, Bezark and Martins, 2012) comb. nov.**

Genus *Odontogracilis* species sample data***Odontogracilis cracentis* (Chemsak and Noguera, 1997) comb. nov.**

(Fig. 55, 56)

Acyphoderes cracentis Chemsak and Noguera, 1997: 7; Monné 2005: 455 (cat.).**Species Concept.** Based on the original description and illustration, and examination of four paratypes in the EMEC collection.**Measurements (mm).** 4 males, total length, 17.3-19.9; length of prothorax, 2.10-2.50; width of prothorax, 1.75-2.25; length of elytra, 6.75-7.75; width at humeri, 1.9-2.25.**Material analyzed.** Paratype, MEXICO, Jalisco, La Manzanilla, en flores de *Paullinia* sp., 1 male, 14.VII.1990, F.A. Noguera col. (EMEC 202,780).**Material examined.** Paratypes, MEXICO, Jalisco, La Manzanilla, en flores *Paullinia* sp., 1male, 15.VII.1990 (EMEC 202,783); ditto, 1male, 17.VII.1990 (EMEC 202,781); ditto, on *Casearia* flowers, 1 male, 2.VII.1991, F.A. Noguera col.(EMEC 202,782).***Odontogracilis exilis* (Fisher, 1947) comb. nov.**

(Fig. 31A, 31B)

Odontocera exilis Fisher, 1947b: 51; Monné 2005: 473 (cat.).**Species Concept.** Based on three specimens identified by Chemsak and Hovore in the EMEC collection; and compared with the holotype picture of Bezark (2010).**Measurements (mm).** 2 males/2 females, total length, 14.65-17.10/17.40-17.50; length of prothorax, 1.75-1.85/2.35-2.45; width of prothorax, 1.45-1.55/2.10; length of elytra, 5.40-6.25/7.30-7.50; width at humeri, 1.50-1.65/2.20-2.25.**Material analyzed.** MEXICO, Veracruz, Est. Biol. Las Tuxtlas, 1 male, 17/21.IV.1989, J. Chemsak col. (EMEC 202,847); ditto 1 female, 23.IV-1.V.1989, F. T. Hovore col. (EMEC 202,848).**Material examined.** MEXICO, Veracruz, Est. Biol. Las Tuxtlas, 1 male, 23.IV-1.V.1991, F. T. Hovore col. (EMEC 202.849); Los Tuxtlas Biol. Sta., U.N.A.M., 1 female, 17-22.V.1983, C. W. & L. O'Brien col. (ACMT).**Comment.** The EMEC female has blacklegs, the ACMT female has all femora rufous.***Odontogracilis gracilis* (Klug, 1825) comb. nov.**

(Fig. 59, 60)

Stenopterus gracilis Klug, 1825: 472, pl. 44, fig. 7.*Odontocera gracilis*; Monné 2005: 474 (cat.).*Odontocera gracilis* var. *perplexa* Melzer, 1922: 9.*Odontocera gracilis* var. *perplexa* Melzer, 1922: 9; Monné 2005: 474 (cat.).**Species Concept.** Based on photographs of four types (Accessions 19933-19936) in the Humboldt Museum; and a specimen in the MZSP collection identified by Melzer.**Measurements (mm).** 2 males/2 females, total length, 18.8-19.3/20.8-20.9; length of prothorax, 2.80-2.90/3.25; width of prothorax, 2.15-2.25/2.45-2.55; length of elytra, 9.80-9.9/10.7-11.6; width at humeri, 2.40-2.50/2.9-3.0.

Material analyzed. BRAZIL, Espirito Santo, Faz. Jerusalem, 1 male, 19.XI.1913, J. F. Zikán col. (MZUSP); São Paulo, Est. São Paulo (MZUSP).

Material examined (cotypes var. *perplexa*). São Paulo, São Paulo, Saude, 1 male and 1 female, 1916 (MZUSP).

***Odontogracilis violaceus* (Santos-Silva, Bezark and Martins, 2012) comb. nov.**

Acypoderes violaceus Santos-Silva, Bezark and Martins, 2012: 78.

Species Concept. Based on examination of the holotype.

Diagnosis. Based on a female paratype of *O. violaceus* from Costa Rica, and a female *O. exilis* from Mexico (but, take note, both species are recorded for Costa Rica). They may be separated as follows; in *O. violaceus* antennomere III 1.44 longer than length of scape (in *O. exilis* 1.67 longer than scape); in *O. violaceus* length of elytra 3.42 longer than width across humeri (in *O. exilis* 3.24 longer than width of humeri); in *O. violaceus* metafemoral peduncle 1.24 longer than metafemoral clave (in *O. exilis* 1.66 longer than clave); and in *O. violaceus* length of metatarsomere I/II+III = 1.33 (in *O. exilis* metatarsomere I/II+III = 1.17).

Measurements (mm). 1 female, total length, 16.8; length of prothorax, 2.50; width of prothorax, 2.20; length of elytra, 8.3; width at humeri, 2.40.

Material analyzed. Holotype, COSTA RICA, Guanacaste, 3 km SE R. Naranjo, 1 female, 1-15.VIII.1993, col. F. D. Parker (USUL).

Comment. Santos-Silva, et al. (2012) separated this species from *O. cracentis* and *O. exilis* based on the color of its hind legs (femora bicolored, peduncle with dark brown area; tibiae and tarsi black with violaceous reflection). Whereas the separation of *O. violaceus* from *O. cracentis* is probably valid (the two species are well separated geographically), its separation from *O. exilis* must remain provisional, since the authors seem to have compared the female holotype of *O. violaceus* with a male paratype of *O. exilis*, the female of which may share the same colored femora as *O. violaceus*; and, if we describe the color of the tibia and tarsi of *O. violaceus* as yellowish with strong violet infusion (which they are), then *O. violaceus* may prove to be a junior synonym of *O. exilis*. However, notwithstanding the inferred synonymy, *O. violaceus* is considered to be a valid species (as diagnosed above) until such time that further specimens (including a male) become available to clarify its status. It should also be stated that the author only had a limited amount of time to examine the specimen of *O. violaceus*.

Acknowledgments

I thank Ubirajara Martins (MZUSP) for his steady encouragement and help; Antonio Santos-Silva (MZUSP) for the many discussions concerning cerambycid systematics. Many thanks to Esteban Abadie for the donation to our collection of specimens from Argentina. Special thanks for the generous loan of museum specimens to Ubirajara Martins (MZUSP), Steven Lingafelter (USNM), Peter Oboyski (EMEC), Robert Davidson and Robert Androw (both of CMNH), and Jim Wappes (ACMT), who also arranged for the USNM, EMEC, CMNH and ACMT loans and transported all of them to Bolivia. Donald Windsor (STRI, Panama), and Ma. Julieta Ledezma (MNKM) also assisted in this process. I am also much indebted to Mike Thomas who was the Review editor for the final version of the manuscript, to Paul Skelley (FSCA) for devoting considerable time revising the first draft, and Jim Wappes who reviewed the document prior to its submission to *Insecta Mundi*. Thanks also to two plant experts, Michael Nee, Curator of the New York Botanical Gardens for identifying the plants, and Señor Ruperto Vargas for providing their local names. Lastly, special thanks to my wife, Sonia Zamalloa, for the many hours of help I have received from her in the field.

Literature Cited

- Audinet-Serville, J. G. 1833.** Nouvelle classification de la famille des longicornes (suite). *Annales de la Société Entomologique de France* (1)2: 528-573.
- Bates, H. W. 1870.** Contributions to an insect fauna of the Amazon Valley. *Transactions of the Entomological Society of London* 1870: 243-335; 391-444.
- Bates, H. W. 1873.** V. Notes on the longicorn Coleoptera of tropical America. *The Annals and Magazine of Natural History* (4)11: 21-45; 117-132.
- Bates, H. W. 1880.** *Biologia Centrali-Americana, Insecta, Coleoptera*. London. 5: 17-152.
- Bates, H. W. 1885.** *Biologia Centrali-Americana, Insecta, Coleoptera*. London. 5: 249-436.
- Bates, H. W. 1892.** Additions to the Longicornia of Mexico and Central America, with remarks on some of the previously recorded species. *Transactions of the Entomological Society of London* 1892: 143-183.
- Bezark, L. G. 2010.** A photographic catalogue of the Cerambycidae of the New World. [Available at <http://plant.cdfa.ca.gov/byciddb/default.app>. Last accessed June 2010.]
- Chemsak, J. A. 1969.** Records and descriptions of Cuban Cerambycidae (Coleoptera). *Acta Musei Moraviensis* 54: 185-190.
- Chemsak, J. A. 1997.** A new Central American Rhinotragine. *Occasional Papers of the Consortium Coleopterorum* 1(1): 15-16.
- Chemsak, J. A. and E. G. Linsley. 1979.** Review of the Rhinotragini of Mexico. *Proceedings of the California Academy of Sciences* 42(3): 69-85.
- Chemsak, J. A. and E. G. Linsley. 1988.** Additional new species of Cerambycidae from the Estación de Biología Chamela, México and environs. *Folia Entomológica Mexicana* 77: 123-140.
- Chemsak, J. A., E. G. Linsley and F. A. Noguera. 1992.** Listados faunísticos de México. II. Los Cerambycidae y Disteniidae de Norteamérica, Centroamérica y las Indias Occidentales (Coleoptera). Universidad Nacional Autónoma de México, México, Distrito Federal. 204 p.
- Chemsak, J. A. and F. A. Noguera. 1993.** Annotated Checklist of the Cerambycidae of the Estación de Biología Chamela, Jalisco, México, with descriptions of new genera and species. *Folia Entomológica Mexicana* 89: 55-102.
- Chemsak, J. A. and F. A. Noguera. 1997.** New Mexican Cerambycidae. *Occasional Papers of the Consortium Coleopterorum* 1(1): 6-14.
- Clarke, R. O. S. 2013.** Bolivian Rhinotragini VII: provisional report of higher altitude species (Coleoptera, Cerambycidae) with descriptions of new taxa. *Papéis Avulsos de Zoologia*, 53(28): 373-406.
- Fisher, W. S. 1930.** Notes on the Rhinotragine beetles of the family Cerambycidae, with descriptions of new species. *Proceedings of the United States National Museum* 77(19): 1-20.
- Fisher, W.S. 1947.** New cerambycid beetles belonging to the tribe Rhinotragini from South America. *American Museum Novitates* 1349: 1-6.
- Giesbert, E. F. 1991.** New species and records of Rhinotragini for Central America and Mexico. *The Coleopterists Bulletin* 45(4): 379-398.
- Gounelle, E. 1911.** Liste des cérambycides de la région de Jatahy, Etat de Goyaz, Brésil. *Annales de la Société Entomologique de France* 80: 1-150.
- Gounelle, E. 1913.** Chasses de M. E. R. Wagner, correspondant du Muséum, dans les provinces du Nord de la République Argentine. Cérambycides nouveaux ou peu connus. *Bulletin du Muséum National de Histoire Naturelle* 19: 193-231.
- Horn, G. H. 1894.** The Coleoptera of Baja California. *Proceedings of the California Academy of Sciences* (2)4: 302-449.
- Kirby, W. 1818.** A century of insects, including several new genera described from his cabinet. *Transactions of the Linnaen Society of London* 12: 375-453.
- Klug, J. C. 1825.** *Entomologiae Brasiliae specimen alterum, sistens insectorum coleopterorum nondum descriptorum centuriam*. *Nova Acta, Academia Caesar L. C., Naturae Curiosorum* 12(2): 421-476.
- Lacordaire, J. T. 1869.** *Histoire Naturelle des Insectes. Genera des Coléoptères, ou exposé méthodique et critique de tous les genres proposés jusqu'ici dans cet ordre d'insectes*. Paris, Librairie Encyclopédique de Roret 8: 1-552.

- Linsley, E. G. 1934.** A new genus and several new species of Neotropical Rhinotragine beetles. *Revista de Entomologia* 4(3): 345-351.
- Maes, J.-M., A. Allen, M. A. Monné and F. T. Hovore. 1994.** Catálogo de los Cerambycidae (Coleoptera) de Nicaragua. *Revista Nicaraguense de Entomología* 27: 1-58.
- Martins U. R. and M. H. M. Galileo. 2004.** Cerambycidae coletados na Venezuela na copa de *Matayba* (Sapindaceae) e *Vochysia* (Vochysiaceae). *Revista Brasileira de Entomologia* 48(2): 229-232.
- Martins, U. R. and A. Santos-Silva. 2010.** Contribuição para o estudo dos Rhinotragini (Coleoptera, Cerambycidae). I. Mudança de status nos subgêneros de *Ommata* White, 1855 e revisão de *Agaone* Pascoe, 1859. *Papéis Avulsos de Zoologia* 50(25): 391-411.
- Monné, M. A. and E. F. Giesbert. 1992.** Nomenclatural notes on Western Hemisphere Cerambycidae. *Insecta Mundi* 6(2): 249-255.
- Monné, M. A. 2001.** Catalogue of the Neotropical Cerambycidae with known host plant - Part II: Subfamily Cerambycinae, tribes Graciliini to Trachyderini. *Publicações Avulsas do Museu Nacional* 90: 1-119.
- Monné, M. A. 2005.** Catalogue of the Cerambycidae (Coleoptera) of the Neotropical Region. Part I. Subfamily Cerambycinae. *Zootaxa* 946: 1-765.
- Monné, M. A. and F. T. Hovore. 2006.** Checklist of the Cerambycidae, or longhorned wood-boring beetles, of the Western Hemisphere. *BioQuip; Rancho Dominguez*. 394p.
- Monné, M. A. and P. R. Magno. 1988.** Sinonímias, descrições e chave para espécies de *Ondontocera* Audinet-Serville, 1833 da América do Sul (Rhinotragini). *Revista Brasileira de Entomologia* 32(3-4): 441-454.
- Newman, E. 1840.** Entomological notes. *The Entomologist* 1: 1-16; 2: 17-32.
- Olivier, A. G. 1795.** Entomologie, ou Histoire Naturelle des Insectes, avec leurs Caractères Génériques et Spécifiques, leur Description, leur Synonymie et leur Figure Illuminée. *Coléoptères* 4: 1-519.
- Pascoe, F. P. 1862.** Notices of new or little-known genera and species of Coleoptera. *Journal of Entomology* 1: 319-370.
- Sale, K. 1990.** *The Conquest of Paradise*. Alfred A. Knopf, Inc.; New York. 453 p.
- Santos-Silva, A., L. G. Bezark and U. R. Martins. 2012.** New genera of Neotropical Rhinotragini (Coleoptera, Cerambycidae, Cerambycinae). *Zootaxa* 3571: 66-80.
- Sharp, M. A. and A. G. Muir. 1912** (reprint edition 1969). The comparative anatomy of the male genital tube in Coleoptera. *Transactions of the Entomological Society of London* 1912: 477-642.
- Tavakilian, G., A. Berkov, B. Meurer and S. Morris. 1997.** Neotropical Tree Species and Their Faunas of Xylophagous Longicorns (Coleoptera, Cerambycidae) in French Guiana. *The Botanical Review* 63(4): 303-355.
- Thomson, J. 1860.** Essai d'une classification de la famille des cérambycides et matériaux pour servir a une monographie de cette famille. By the author; Paris. 404 p.
- Thomson, J. 1864.** Systema cerambycidarum ou exposé de tous les genres compris dans la famille des cérambycides et familles limitrophes. *Mémoires Société Royale Sciences de Liège* 19: 1-540.
- Tippmann, F. F. 1953.** Studien über neotropische Longicornier I. *Dusenien* 4:181-228.
- Wappes, J. E., R. F. Morris, E. H. Nearns and M. C. Thomas. 2006.** Preliminary checklist of Bolivian Cerambycidae (Coleoptera). *Insecta Mundi* 20(1-2):1-46.
- White, A. 1855.** Catalogue of the coleopterous insects in the collection of the British Museum, Longicornia 2. *London* 8: 175-412.
- Zajciw, D. 1972.** Estudo das espécies Brasileiras do gênero *Acyphoderes* Audinet-Serville, 1833 (Rhinotragini). *Revista Brasileira de Biologia* 32(3): 401-412.

Received August 17, 2014; Accepted December 11, 2014.

Review Editor: Michael C. Thomas.

Appendix I. Morphology

The taxonomy of the genus *Acyphoderes* (sens. auct.), and other larger genera of Rhinotragini, is rendered unusually difficult by their universal adoption of mimicry, an evolutionary process producing body forms of seemingly endless variety, but leaving behind few clues as to their individual relationships.

For this revision almost every external character presented by these insects has been examined in the search of definitive diagnoses, only to confirm their true nature (as stated by many previous authors), one of almost continuous variation from one extreme to the other.

A number of characters that have been used for defining Rhinotragini taxa above the species level are rather too variable for this purpose (as they could foster a diffusion of undesirable small genera); but have not been eliminated from the descriptions of genera, and, maybe, should not be, until such time as the revision of all genera in the tribe has been completed. These are, length of rostrum; width between inferior lobes of eyes; shape of antennae (including length and relative strength of serration, and distribution of setae); width of pro- and mesosternal processes (compared to width of their respective coxal cavities); features of the metasternum (shape and convexity); and surface ornamentation (pubescence and puncturation) and color of integument.

After consideration of the many alternatives, the characteristics of five structures have been selected which seem to bring species of similar appearance, but disjunct geographical distribution, into definable groups, without disrupting the integral nature of the acyphoderines as a whole. The classification of these five structures is set out below.

Classification of the prothorax.

(Fig. 1, 2, 4, 6-26, 28-53, 55, 57-59)

Among the characters used for the division of this genus the type of prothorax has been considered important given its historical significance; notwithstanding Bates (1873) comment that “their shape differs according to sex, and therefore, is of no avail as a generic distinction”. Examination of the figures referred to above will indicate that Bates’ opinion is valid for some species; but mitigated by only using males for the following analysis (with female data remarked on when significant).

The classification is primarily based on the general shape of the prothorax, and surface features of the pronotum (amongst which the following one is present in all species included in this revision. Surface of pronotum with pair of inverted, comma-shaped calli forming a crescent to either side of callus at midline).

One character, commonly used in descriptions of Rhinotragini is the point at which the prothorax is widest. In an attempt to reduce inconsistency this character is presented in numerical form; and from here it will be referred to as the “prothoracic quotient” (the result of dividing the length of the prothorax by the distance from the front border to its widest point). For example, in a male *Acyphoderes ayalai* length of prothorax is 2.6 mm/widest point at 1.3 mm (precisely at middle), resulting in a quotient of 2.0. Theoretically, a prothorax of equal length (2.6 mm), but widest at apical border (0.0 mm), would produce a quotient of 2.6; and if widest at basal border the quotient would be 1.0. In other words the prothorax is widest before middle when the quotient is more than 2.0 (and the higher this number, the more the widest point will move towards the apex of the prothorax); and widest behind middle when quotient is less than 2.0 (and the lower this number, the more the widest point will move towards the base of the prothorax).

Prothorax Type 1

(Fig. 7-21, 25, 28-30)

Diagnosis. Prothorax discoid or obovate (or more trapezoidal in male *A. hirtipes*, more cylindrical in *Anomaloderes*); pronotal disc broadly depressed, the depression demarcated by paired lateral calli, and usually bisected by a single median callus.

Secondary characters. Weakly transverse to elongate in both sexes (length/width 0.90-1.24); sides regularly rounded from apex to basal constriction (but see male *A. hirtipes*); and widest from near middle towards apex, prothoracic quotient in both sexes 1.92-2.96.

Subtype 1A (Fig. 7-18)

Prothorax discoid (length/width 0.95-1.08), or in male *A. hirtipes* more trapezoidal and elongate (length/width 1.19); pronotal depression ample and deep (together with lateral calli occupying most of pronotal surface); basal pair of lateral calli widened and flattened laterally to project beyond sides of

pronotum (in most species, and especially in larger specimens); prothoracic quotient in males 1.97-2.33, in females 2.13-2.96.

Subtype 1A prothorax belong to *Acyphoderes abdominalis*, *A. aurulenta*, *A. auricapilla*, *A. crinita*, *A. hirtipes*, *A. rubrohirsutotibialis*, and the monotypic genus *Bromiades*.

Subtype 1B (Fig. 19-21, 25, 28-30)

Prothorax obovate (more cylindrical in *Anomaloderes*), and elongate (length/width 1.04-1.24); pronotal depression less ample and not as deep as those of subtype 1A (together with calli occupying central two-thirds of pronotal surface); paired lateral calli not widened or flattened laterally, nor projecting beyond sides of pronotum (except towards base in *Anomaloderes*, and in some large specimens of *A. carinicornis*); prothoracic quotient in males 1.92-2.95; in females 1.92-2.58.

Subtype 1B prothorax belong to *Acyphoderes amoroensis*, *A. carinicornis*, the monotypic genus *Anomaloderes*, and the genus *Brachyphoderes*.

Prothorax Type 2

(Fig. 1, 2, 4, 6, 22-24)

Diagnosis. Prothorax obovate (or weakly trapezoidal in some females); pronotal disc moderately to strongly convex; lacking broad pronotal depression (but to either side of midline with narrow, flat area with characteristic, sexually dimorphic puncturation).

Secondary characters. Slightly elongate to elongate in both sexes (length/width 1.04-1.20); sides almost regularly rounded from apex to basal constriction (in females not so); and widest well before middle, prothoracic quotient in both sexes 2.28-3.94.

Subtype 2 prothorax belong to the genera *Acyderophes* and *Forficuladeres*.

Prothorax Type 3

(Fig. 53)

Diagnosis. Prothorax globose; pronotal disc strongly convex, and lacking depression.

Secondary characters. Almost quadrate (length/width 0.97); sides well rounded from apex to basal constriction; and widest well behind middle, prothoracic quotient 1.75.

Subtype 3 prothorax belongs to the monotypic genus *Amerispheca*.

Prothorax Type 4

(Fig. 26, 31-52, 55-59)

Diagnosis. Prothorax trapezoidal, urn-shaped, or subcylindrical; pronotal disc convex, lacking broad pronotal depression (but narrowly depressed between prominent, large calli in some species, as in *A. velutina*).

Secondary characters. Slightly elongate to elongate (length/width 1.06-1.29); sides not regularly rounded from apex to basal constriction (may be strongly rounded at middle, slightly sinuate, or in part rectilinear); and widest from behind middle nearly to apex, prothoracic quotient in both sexes 1.83-3.55.

Subtype 4A (Fig. 26, 31-42)

Prothorax trapezoidal in appearance; slightly to moderately elongate (length/width 1.06-1.17); sides widest in front of middle, prothoracic quotient in male 2.37-3.30, in female 2.32-3.55.

Subtype 4A prothorax belongs to *Ameriphoderes* Group 1 species, and the monotypic genus.

Subtype 4B (Fig. 43-52)

Prothorax urn-shaped (sides broadly and strongly rounded at middle, sinuate from middle to front and hind margins in *A. amoena*, *A. magna* and *A. proluxa*), or subcylindrical (sides broadly, but not strongly rounded at middle, and sinuate from middle to front and hind margins in *A. bayanicus* and *A. cribricollis*); slightly to moderately elongate (length/width 1.06-1.19); sides widest from middle to behind middle, prothoracic quotient in male 1.86-2.21; in female 2.12-2.39).

Subtype 4B prothorax belongs to *Ameriphoderes* Group 2 species.

Subtype 4C (Fig. 55, 57-59)

Prothorax urn-shaped, narrow and elongate (length/width 1.20-1.29); apical constrictions well developed, basal ones shallow; sides in male widest behind, or at middle (prothoracic quotient 1.83-2.00), in female well before middle (prothoracic quotient 2.61).

Subtype 4C prothorax belongs to the genus *Odontogracilis*.

Classification of the elytra.

(Fig. 1, 2, 4, 6-26, 28-53, 55, 57-59)

The classification of the elytra is based primarily on their overall shape (cuneate, subulate, or entire); relative length; shape of apex (rounded, acuminate, or lobed); type of dehiscence (simply dehiscent or fissate); and degree of divergence.

The terms “dehiscent” or “fissate” as used in this revision are best understood in the following way. Elytra that are dehiscent have straight, or outwardly curved, sutural margins; and can be strongly dehiscent, leaving the apices of the elytra widely separated (see female *Ameriphoderes acutipennis*, Fig. 32), or narrowly dehiscent, leaving the apices of the elytra weakly separated (see male *Ameriphoderes acutipennis*, Fig. 31). Elytra that are fissate have recurved sutural margins; and can be widely fissate, leaving the apices of the elytra well separated (see females of the genus *Forficuladeres*, Fig. 2, 6), or narrowly fissate, leaving elytral apices weakly separated (see males of the genus *Forficuladeres*, Fig. 1, 4). Having established their meaning, it must be said, that the difference between fissate and dehiscent is not always obvious; and in some species (like *Acyphoderes carinicollis*) both conditions may be manifested.

In nearly all species of *Acyphoderes* (sens. auct.) elytral humeri are not wide enough to hide the sides of the mesosterna when viewed from directly above (at least, the sides of the mesepimera can be seen, but only just in the male of *A. aurulenta*, female of *A. auricapilla*, and in both sexes of *A. magna*); and in two species (*Anomaloderes itaiuba* and *Amerispheca delicata*) the elytra completely hide the mesepimera.

Elytra Type 1

(Fig. 11, 12, 28-30)

Diagnosis. Cuneate or subulate and lobate, short (length/width 1.3-2.2); apex subacuminate to rounded.

Subtype 1A (Fig. 11-12)

Cuneate, broad (and rather rounded at apex); very short (length/width 1.3); and dehiscent towards apex.

Subtype 1A elytra belongs to the monotypic genus *Bromiades*.

Subtype 1B (Fig. 28-30)

Cuneate, broad for basal half, strongly narrowed to subacuminate apex (apex truncate); short (length/width 1.7-2.0); and dehiscent from behind scutellum to apex.

Subtype 1B elytra belongs to the genus *Brachyphoderes*.

Elytra Type 2

(Fig. 1, 2, 4, 6)

Diagnosis. Subulate and lobate, short (length/width 1.0-2.3); distinctly fissate; each elytron strongly narrowed from humeri to apical third, apical third rather lobate; each lobe parallel-sided and widening slightly towards weakly rounded apex.

Subtype 2A elytra belongs to the genus *Forficuladeres*.

Elytra Type 3

(Fig. 7-10, 13-26)

Diagnosis. Subulate, subfissate for apical half to apical two-thirds.

Subtype 3A (Fig. 7-10)

Subfissate for apical half; relatively short (length/width 2.0); broad for basal half, apex subacuminate. Subtype 3A elytra belong to *Acyphoderes abdominalis* and *A. aurulenta*.

Subtype 3B (Fig. 13-25)

Subfissate for apical half, or two-thirds; moderately short to long (length/width 2.4-3.1); moderately broad for basal half, apex truncate or subacuminate.

Subtype 3B elytra belong to *Acyphoderes amboroensis*, *A. auricapilla*, *A. carinicornis*, *A. crinita*, *A. hirtipes*, *A. rubrohirsutotibialis*, and the monotypic genera *Acyderophes* and *Anomaloderes*.

Subtype 3C (Fig. 26)

Subfissate for apical two-thirds; long (length/width 3.3); relatively narrow for basal half; apex sharply acuminate.

Subtype 3C elytra belongs to the monotypic genus *Acutiphoderes*.**Elytra Type 4**

(Fig. 31-44)

Diagnosis. Subulate (each elytron narrowed from base to apex), dehiscent (not fissate) for apical half to three-quarters, relatively short to moderately long (length/width 2.2-3.2).

Subtype 4A (Fig. 43-44)

Apex subacuminate and obliquely rounded (and unarmed); moderately long (length/width 2.8-2.9 in both sexes), reaching apex of urosternite III in male, middle of IV in female.

Subtype 4A elytra belongs to *Ameriphoderes amoena*.

Subtype 4B (Fig. 31-42)

Apex truncate (and armed with spicules or small teeth); relatively short to long (length/width 2.2-3.2), reaching from middle to apex of urosternite III.

Subtype 4B elytra belongs to *Ameriphoderes* Group 2 species.**Elytra Type 5**

(Fig. 45-53, 55, 57-59)

Diagnosis. Subulate (each elytron with apical third to half subparallel), subfissate to fissate for apical half to apical two-thirds; relatively long (length/width 3.2-4.1); apex rounded (except *Odontogracilis gracilis*), and unarmed.

Subtype 5A (Fig. 45-53)

Elytra fissate; humeri moderately prominent; apex rounded, reaching from middle to apex of urosternite III.

Subtype 5A elytra belong to *Ameriphoderes bayanicus*, *A. cribricornis*, *A. magna*, *A. proluxa*, and the monotypic genus *Amerispheca*.

Subtype 5B (Fig. 55, 57-59)

Elytra subfissate; humeri weakly prominent; apex rounded to subacuminate, reaching from apical third of urosternite II to basal third of IV.

Subtype 5B elytra belongs to the genus *Odontogracilis*.

Classification of the male abdomen.

(Fig. 5, 54, 56, 60, 61, 63-68, 71, 72, 74, 77, 79, 82, 84, 85, 87, 89, 91, 93, 95, 97, 99)

Historically the diagnosis of the two related genera (*Acyphoderes* and *Bromiades*) has not included the structure of the abdomen. Although there are exceptions, the shape of the abdomen in males vary considerably (and are, therefore, a useful diagnostic tool), those of females less variable, and may change as they become more gravid.

The classification of the different types of abdomen presented here is based on males; their general shape (cylindrical, fusiform, petiolate, and subtypes of the latter), and length, and characteristics of individual urosternites. The terms short/long and narrow/broad are relative, and should be assessed by comparing them with other types shown by figure references given above. Abdomens in which each segment is narrowed at base and apex are described as being annulated.

This section is followed by some notes on the abdominal process.

Abdomen Type 1

(Fig. 5, 61, 63-68)

Diagnosis. Apical segments distinctly wider than basal segments.

Subtype 1A (Fig. 5, 61)

Abdomen annulated; every segment with different shape; base strongly petiolate; urosternite V exceptionally wide, much wider than IV; IV cup-shaped, strongly transverse, and rounded at sides (base much narrower than apex); urosternite II conical.

Subtype 1A abdomen belongs to the genus *Forficuladeres*.

Subtype 1B (Fig. 63-66, 68)

Abdomen annulated; segments I and II similar in shape; base petiolate; urosternite IV the widest, wider than V and III; IV bowl-shaped, not strongly transverse; urosternite II cylindrical, and not strongly transverse.

Subtype 1Ba (Fig. 63, 64)

Urosternite IV much wider than III; III conical to subconical.

Subtype 1Ba abdomen belongs to *Ameriphoderes parva* and *A. yucateca*.

Subtype 1Bb (Fig. 65, 66, 68)

Urosternite IV not, or not much, wider than III; III cylindrical.

Subtype 1Bb abdomen belong to *Ameriphoderes acutipennis*, *A. ayalai*, *A. suavis* and *A. velutina*.

Subtype 1C (Fig. 67)

Abdomen not annulated (almost smoothly rounded from base to apex); each urosternite with a different shape (but similar in length, III-V equal); base sessile, II-IV strongly transverse; IV not wider than III; urosternite V narrower than III, about as wide as I or II

Subtype 1C abdomen belongs to the monotypic genus *Acutiphoderes*.

Abdomen Type 2

(Fig. 54, 56, 60, 71, 72, 74, 77, 79, 82, 84, 85, 87, 89, 91, 93, 95, 97, 99)

Note: since males of the following species have not been available, the abdomens of *A. auricapilla* and *A. rubrohirsutotibialis* are assumed to be similar to that of *A. crinita*.

Diagnosis. Cylindrical to subcylindrical, or somewhat fusiform; apical segments not distinctly wider than basal segments; urosternite II not conical.

Subtype 2A (Fig. 54, 71, 72, 74, 77, 79, 82, 84, 85, 87, 89)

Abdomen relatively short and broad; cylindrical to subcylindrical, or moderately fusiform.

Subtype 2A abdomen belongs to *Ameriphoderes amoena*, the genus *Acyphoderes*, and the monotypic genera *Acyderophes*, *Amerispheca*, *Anomaloderes* and *Bromiades*.

Subtype 2B (Fig. 91, 93, 95, 97, 99)

Abdomen moderately long and narrow; and cylindrical.

Subtype 2B abdomen belongs to *Ameriphoderes bayanicus*, *A. cribricollis*, *A. magna*, *A. proluxa*, and the genus *Brachyphoderes*.

Subtype 2C (Fig. 56, 60)

Abdomen cylindrical, very long and very narrow.

Subtype 2C abdomen belongs to the genus *Odontogracilis*.

Notes on the abdominal process

The abdominal process is the triangular, downwards extension at the middle of the base of the first urosternite. Unless otherwise stated, it lies intimately inserted between the metacoxae.

The degree of slope of the abdominal process is an important feature which seems to be involved in flight dynamics (species with longer abdomens tend to have steeply angled processes) and, maybe mimicry (maintaining the abdomen in a similar position to their models in flight).

In most species it is a sexually dimorphic character, sloping in males, planar with, or less sloping to abdomen in females. And, apart from this, it should be added, is susceptible to some intraspecific variation.

The degree to which the abdominal process slopes relative to the midline of the abdomen's surface is estimated by viewing the insect from the side; but is rather inaccurate between 30° and 70° of slope.

Abdominal process flat or almost so (less than 10°).

Abdominal process weakly inclined (11-39°).

Abdominal process well inclined (40-79°).

Abdominal process nearly vertical, or even more so (110°).

Classification of the hind leg

(Figures 101-109)

The classification of the hind leg is based on its relative robustness; its length (compared to length of front leg); and general shape (femora subcylindrical or pedunculate-clavate) and proportionate length of clava and peduncle; and other secondary characters (tibiae with or without brush; first metatarsomere trapezoidal or cylindrical, and its length (as discussed below).

The hind leg in many South American species are robust (including the femoral peduncle and tibia), in four species more slender (*Acyphoderes amboroensis*, *A. carinicollis*, *A. crinita* and *A. rubrohirsutotibialis*); the metafemora strongly pedunculate-clavate, or subcylindrical in three species (*Acyphoderes auricapilla*, *A. crinita*, and *A. rubrohirsutotibialis*); in most species the metatibia is furnished with a dense, long-haired brush (except for *Acutiphoderes odyneroides*, *Acyphoderes carinicollis* and *A. amboroensis*); and in two species the first metatarsomere is rather short and trapezoidal (*Acyphoderes abdominalis* and *A. aurulenta*).

In nearly all Central American-Mexican species the hind leg is relatively slender, only robust in two species (*Ameriphoderes amoena* and *A. suavis*); none of them have subcylindrical metafemora; the metatibia lacks a brush in the large genus *Ameriphoderes* (except in *A. magna*); and in all species the first metatarsomere is long and nearly cylindrical.

However, this moderately orderly state of affairs is somewhat disrupted by a group of Columbian/Central American-Mexican genera of doubtful origin. These include *Bromiades* (hind legs robust, metatibia with strong brush, first metatarsomere short and trapezoidal), and *Brachyphoderes* and *Forficuladeres* (metatibiae with rather narrow brushes).

The ratio of the length of metatarsomere I to the length of II and III together (shortened to I/II+III in the text) varies with size of specimen and sex (first tarsomere usually longer in females), and seems to have limited value as a generic character; but in most South American species ratio is 0.6-1.0 (notable exceptions being *A. crinita* and *A. rubrohirsutotibialis* in which the ratio is 1.2-1.3); and in most Mesoamerican/Mexican species in which the ratio is 1.1-1.6 (notable exceptions being *Forficuladeres sexualis* 0.9 and *Bromiades* 0.7).

The out-group genus, *Odontogracilis* (which includes *O. gracilis* from Brazil), conforms to those very slender Central American-Mexican species (*O. cracentis*, *O. exilis* and *O. violaceus*) with very long and narrow, pedunculate-clavate hind legs.

Hind Leg Type 1

(Fig. 101, 102)

Diagnosis. Robust; femora strongly pedunculate-clavate.

Secondary characters. Clave moderately abrupt to abrupt; peduncle robust (but see *Ameriphoderes amoena*) and moderately short (length clave/peduncle 1.15-2.1). Metatarsomere I trapezoidal or cylindrical, I/II+III 0.6-1.5.

Subtype 1A (Fig. 101)

Hind leg 1.7-1.9 longer than front leg; metatibia with moderately long-haired, dense brush; metatarsomere I trapezoidal, and short, length of I/II+III 0.62-0.85.

Subtype 1A hind legs belong to *Acyphoderes abdominalis*, *A. aurulenta* and the monotypic genus *Bromiades*.

Subtype 1B (Fig. 102)

Hind leg 1.8-2.5 longer than front leg; metatibia sparsely to moderately densely pubescent (but not a brush); metatarsomere I cylindrical, and moderately short to long, length of I/II+III 1.04-1.52.

Subtype 1B hind legs belong to *Ameriphoderes amoena* and *A. suavis*, and the monotypic genus *Acutiphoderes*.

Hind leg Type 2

(Fig. 103, 104)

Diagnosis. Moderately robust or slender; femora subcylindrical.

Secondary characters. Clave not abrupt, and not much wider than peduncle; peduncle moderately broad to narrow, and moderately short to long (lengths clave/peduncle = 0.85-1.75); metatibiae with strong brush; metatarsomere I cylindrical or subcylindrical, I/II+III (1.0-1.3).

Subtype 2A (Fig. 103)

Femora robust; clave long (lengths clave/peduncle 1.75); metatarsomere I subcylindrical, moderately short, I/II+III 1.0).

Subtype 2A hind leg belongs to *Acyphoderes auricapilla*.

Subtype 2B (Fig. 104)

Femora slender; clave short (lengths clave/peduncle 0.85-0.93); metatarsomere I cylindrical, moderately long to long, I/II+III 1.14-1.31.

Subtype 2B hind legs belong to *Acyphoderes crinita* and *A. rubrohirsutotibialis*.

Hind leg Type 3

(Fig. 105-109)

Diagnosis. Slender; femora strongly pedunculate-clavate.

Secondary characters. Clave fusiform, and abrupt; peduncle narrow, and moderately short to very long (lengths clave/peduncle 0.59-1.30); metatibia with or without brush; metatarsomere I cylindrical or

subcylindrical, I /II+III 0.6-1.6.

Subtype 3A (Fig. 105)

Clave tumid and abrupt; peduncle moderately long to short (lengths clave/peduncle 0.85-1.25); metatibia without brush.

Subtype 3A hind legs belong to *Ameriphoderes acutipennis*, *A. ayalai*, *A. parva*, *A. velutina* and *A. yucateca*.

Subtype 3B (Fig. 106-108)

Clave abrupt, tumid or not tumid; peduncle very short to long (lengths clave/peduncle 0.81-1.30; but see *Brachyphoderes dehiscens* and *Ameriphoderes magna* for shorter exceptions); metatibia with or without brush.

Subtype 3Ba (Fig. 106)

Metatibiae with long-haired dense brush.

Subtype 3Ba hind legs belongs to *Acyphoderes hirtipes*, the genus *Forficuladeres*, and the monotypic genus *Anomaloderes*.

Subtype 3Bb (Fig. 107)

Metatibiae with short-haired dense brush.

Subtype 3Bb hind legs belong to *Ameriphoderes magna*, the genus *Brachyphoderes*, and the monotypic genera *Acyderophes* and *Amerispheca*.

Subtype 3Bc (Fig. 108)

Metatibia setose (not long, nor dense enough to be called a brush).

Subtype 3Bc hind legs belong to *Acyphoderes amboroensis*, *A. carinicollis*, *Ameriphoderes bayanicus*, *A. cribricollis* and *A. proluxa*.

Subtype 3C (Fig. 109)

Clave abrupt but not tumid; peduncle exceptionally long (lengths clave/peduncle 0.59-0.71); metatibia with not very dense, short setae.

Subtype 3C hind legs belong to the genus *Odontogracilis*.

Classification of the male genitalia

(Fig. 110-139)

Classification of the aedeagus (based on the shape of the tegmen and median lobe) has, perforce, been invented by the author; and, it must be said, remains rudimentary; albeit examination of Figures 110-139 speak for themselves, and justify the importance given to the genitalia as a primary diagnostic tool. Analysis of the median lobe remains particularly unsatisfactory, and has been limited to two types; until such time an enhanced study (with better equipment not available to the author), produces a more precise classification.

The aedeagi have been divided into three different types, consisting of two types of median lobes, and three types of tegmen (the latter divided in to various subtypes), as presented below.

Aedeagus Type 1

(Fig. 110, 111)

Diagnosis. Median lobe Type 1. Tegmen Type 1.

One Pan-American species and one from Panama have a Type 1 aedeagus.

Aedeagus Type 1 belong to the genus *Forficuladeres*.

Median lobe Type 1. Narrow and strongly arched, and increasingly acuminate towards apex (when viewed dorsally); and internal sack seems to lack dark bodies. Length 2.3-2.5 mm.

Tegmen Type 1. Tegmen shears-shaped and strongly chitinized; lateral lobes twisted, and divergent at base, short and broad (length/width 4.0-4.2); apices subparallel to each other, large and somewhat chelate; apex strongly setose laterally; and basal piece very short.

Aedeagus Type 2

(Fig. 112-121)

Diagnosis. Median lobe Type 1. Tegmen Type 2.

Six species from South America, one from Panama, and one Pan-American species have a Type 2 aedeagus.

Median lobe Type 1. See above for description. Length 1.8-3.2 mm.

Tegmen Type 2. Tegmen somewhat caliper-shaped and moderately strongly chitinized; lateral lobes (length/width 3.8-6.0) paddle-shaped, twisted, and divergent at base, long and usually narrower towards abruptly lobed apices (hardly abrupt in *Brachyphoderes*); the apices subparallel to each other, divergent, or convergent; usually rather weakly setose, these somewhat confined to apical margin; and basal piece short.

Tegmen subtype 2a (Fig. 112, 113)

Lateral lobes (length/width 5.5-7.1) strongly divergent from base to apex; apices not strongly abrupt, the apical lobes elongate, and setose on sides and apex.

Subtype 2a tegmen belong to *Acyphoderes abdominalis* and *A. crinita*.

Tegmen subtype 2b (Fig. 114, 115)

Lateral lobes (length/width 4.8-5.3) divergent at base, convergent towards apex (but widely separated throughout); apices abrupt, the apical lobes rounded, and hardly setose.

Subtype 2b tegmen belong to *Acyphoderes hirtipes* and *A. aurulenta*.

Tegmen subtype 2c (Fig. 116, 117)

Lateral lobes (length/width 3.8-5.3) weakly divergent at base, subparallel to apex; the apical lobes obovate and setose at apex.

Subtype 2c tegmen belong to *Acyphoderes amboroensis* (aedeagus visible, but not extracted), *Acyderophes fulgida* (paratype, Costa Rica), and *Bromiades brachyptera*.

Tegmen subtype 2d (Fig. 118, 119)

Lateral lobes (length/width 4.4-5.0) subparallel to slightly divergent; the apical lobes narrow and elongate, and setose on sides and apex.

Subtype 2d tegmen belong to *Acyphoderes carinicollis* and *Acyderophes ?fulgida* (Mexico).

Tegmen subtype 2e (Fig. 120, 121)

Lateral lobes (length/width 5.8-6.0) weakly twisted; apices not abrupt, the apical lobes long, narrow and setose; and basal piece very short.

Subtype 2e tegmen belongs to the genus *Brachyphoderes*.

Aedeagus Type 3

(Fig. 122-139)

Diagnosis. Median lobe Type 2. Tegmen Type 3.

One species from USA to Costa Rica, seven from Mexico to Panama, seven endemic to Mexico, and three species from the northern half of South America have a Type 3 aedeagus.

Median lobe Type 2. Somewhat broader than type 1, weakly to moderately arched, and rather broadly rounded at apex, the apex with or without small acuminate projection at middle (when viewed dorsally); and internal sac usually contains two rounded dark bodies. Length of median lobe 1.5-2.4 mm.

Tegmen Type 3. Tegmen V-shaped and weakly chitinized; lateral lobes (length/width 3.4-6.9, except in *O. gracilis* 10.0) strap-shaped, not twisted (but see *A. prolixa*), approximate at base and not, or only moderately divergent (but see *A. parva*); very long and narrow to short and broad; not, or only slightly lobed at apex; strongly setose to almost glabrous; and basal piece long.

Tegmen subtype 3a (Fig. 122, 123)

Lateral lobes long (length/width 5.6-6.9); at base proximate and moderately broad, but strongly narrowed towards apex; weakly divergent; and rather strongly setose.

Subtype 3a tegmen belong to *Ameriphoderes prolixa* and *A. magna*.

Tegmen subtype 3b (Fig. 124-126)

Lateral lobes very long and narrow (length/width 5.8-6.0, but *O. gracilis* 10.0); proximate at base, strongly divergent; and moderately setose.

Subtype 3b tegmen belongs to the genus *Odontogracilis*.

Tegmen subtype 3c (Fig. 127-131)

Lateral lobes moderately long and narrow (length/width 5.0-5.8), relatively acuminate at apex; divergent; and moderately setose.

Subtype 3c tegmen belong to *Ameriphoderes acutipennis*, *A. ayalai*, *A. suavis*, *A. velutina* and *A. yucateca*.

Tegmen subtype 3d (Fig. 132-136)

Lateral lobes short and broad (length/width 3.4-5.0); rounded at apex; not divergent; and hardly setose.

Subtype 3d tegmen belong to *Ameriphoderes amoena*, *A. cribricollis* (Nayarit), *A. ?cribricollis* (Veracruz), *Amerisphoca delicata* and *Anomaloderes itaiuba*.

Tegmen subtype 3e (Fig. 137-139)

Lateral lobes short to moderately long (length/width 3.8-5.0); apex weakly to moderately acuminate; moderately divergent; and strongly setose.

Subtype 3e tegmen are *Ameriphoderes parva*, *A. bayanicus* and *Acutiphoderes odyneroides*.

Appendix II. Host Flowers visited by *Acyphoderes* and related genera

Part 1. Published records.

***Acutiphoderes odyneroides* (White, 1855)**

Tavakilian and Peñaherrera-Leiva 2007:81, French Guiana, *Eugenia luschnathiana* (Myrtaceae).

***Acyderophes fulgida* (Chemsak and Linsley, 1979)**

Chemsak and Linsley 1979:77, Costa Rica, *Casearia nitida* (Flacourtiaceae), *Trigonia floribunda* (Trigoniaceae), P. Opler col.

***Ameriphoderes cribricollis* (Bates, 1892)**

Chemsak and Linsley 1979:74, Mexico, *Croton* (Euphorbiaceae), *Zanthoxylum* (Rutaceae), *Jatropha* (Euphorbiaceae).

***Ameriphoderes magna* (Giesbert, 1991)**

Giesbert, 1991: 381, Mexico, *Croton* (Euphorbiaceae).

***Ameriphoderes parva* (Chemsak and Linsley, 1979)**

Chemsak and Linsley 1979:80, Mexico, *Buddleia wrightii* (Buddleiaceae), J.A. and M. Chemsak col.

***Anomaloderes itaiuba* (Martins and Galileo, 2004)**

Martins and Galileo, 2004: 230, Venezuela, on flowers of *Matayba guianensis* (Sapindaceae), Morawetz col.

***Brachyphoderes longicollis* (Chemsak and Noguera, 1993)**

Chemsak and Noguera 1993:81, Mexico, *Casearia* (Flacourtiaceae), *Paullinia* (Sapindaceae), F.A. Noguera col.

***Bromiades brachyptera* (Chevrolat, 1838)**

Fisher, 1930:13, Cuba, flowers of “Jucaro”, *Bucida buceras* (Combretaceae).

Chemsak and Linsley 1979:72, Mexico, *Spondias* (Anacardiaceae); Costa Rica, *Cordia* (Boraginaceae), *Casearia* (Flacourtiaceae), *Forsteronia* (Apocynaceae), *Coccoloba* (Polygonaceae).

***Forficuladeres sexualis* (Linsley, 1934)**

Linsley 1934:350, Mexico, *Spondias* (Anacardiaceae), H. Hinton and R. Usinger col.

Chemsak and Linsley 1979:76, Mexico, *Acacia* (Mimosaceae), *Spondias* (Anacardiaceae).

***Odontogracilis cracentis* (Chemsak and Noguera, 1997)**

Chemsak and Noguera 1997:8, Mexico, *Paullinia* (Sapindaceae), *Casearia* (Flacourtiaceae), F.A. Noguera col.

Part 2. Museum specimen labels seen by the author.***Acyphoderes aurulenta* (Kirby, 1818)**

Puerto Rico, on blossom of *Mangifera indica* (Anacardiaceae), A.G. Harley col. (#3819 USNM).

***Ameriphoderes ayalai* (Chemsak and Linsley, 1988)**

Mexico, on flowers of *Erythroxylum havanensis* (Erythroxylaceae), F.A. Noguera col. (EMEC 202,777).

***Ameriphoderes suavis* (Bates, 1885)**

Mexico, ex *Jatropha curcas* (Euphorbiaceae), J. and M. A. Chemsak and M. and A. Michelbacher col. (EMEC 202,837).

Costa Rica, *Baltimora recta* (Asteraceae), P.A. Opler col. (EMEC 202,838); *Casearia nitida* (Flacourtiaceae), P.A. Opler col. (EMEC 202,839).

Part 3. Author's records for Bolivia (published, or in the RCSZ collection)***Acyphoderes abdominalis* (Olivier, 1795)**

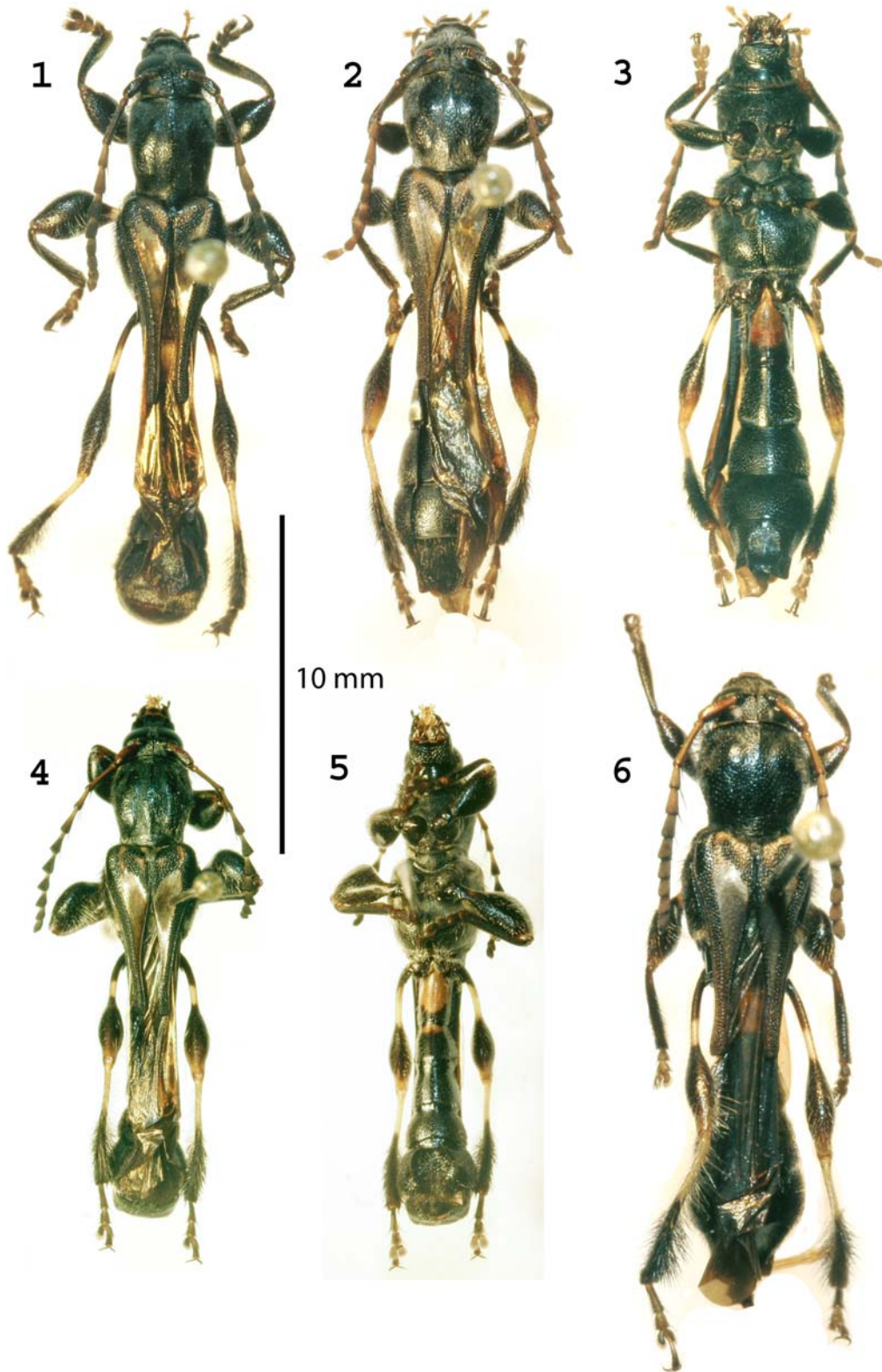
Casearia aculeata (Flacourtiaceae), *Cupania cinerea* (Sapindaceae), *Gouania mollis* (Rhamnaceae), *Talisia hexaphylla* (Sapindaceae), *Trichilia elegans* (Meliaceae).

***Acyphoderes amboroensis* Clarke, 2013**

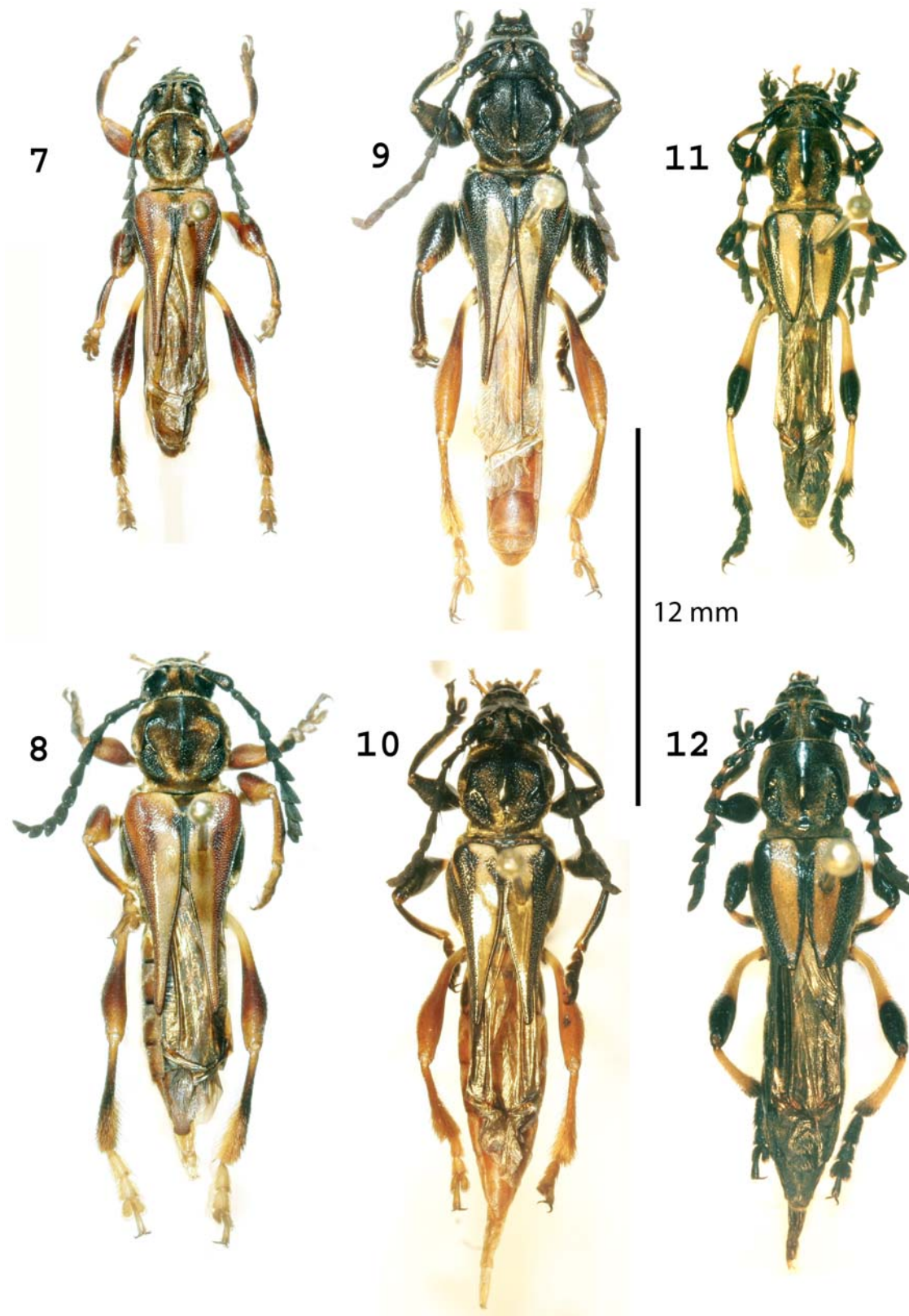
Weinmannia sorbifolia (Cunoniaceae).

***Acyphoderes carinicollis* Bates, 1873**

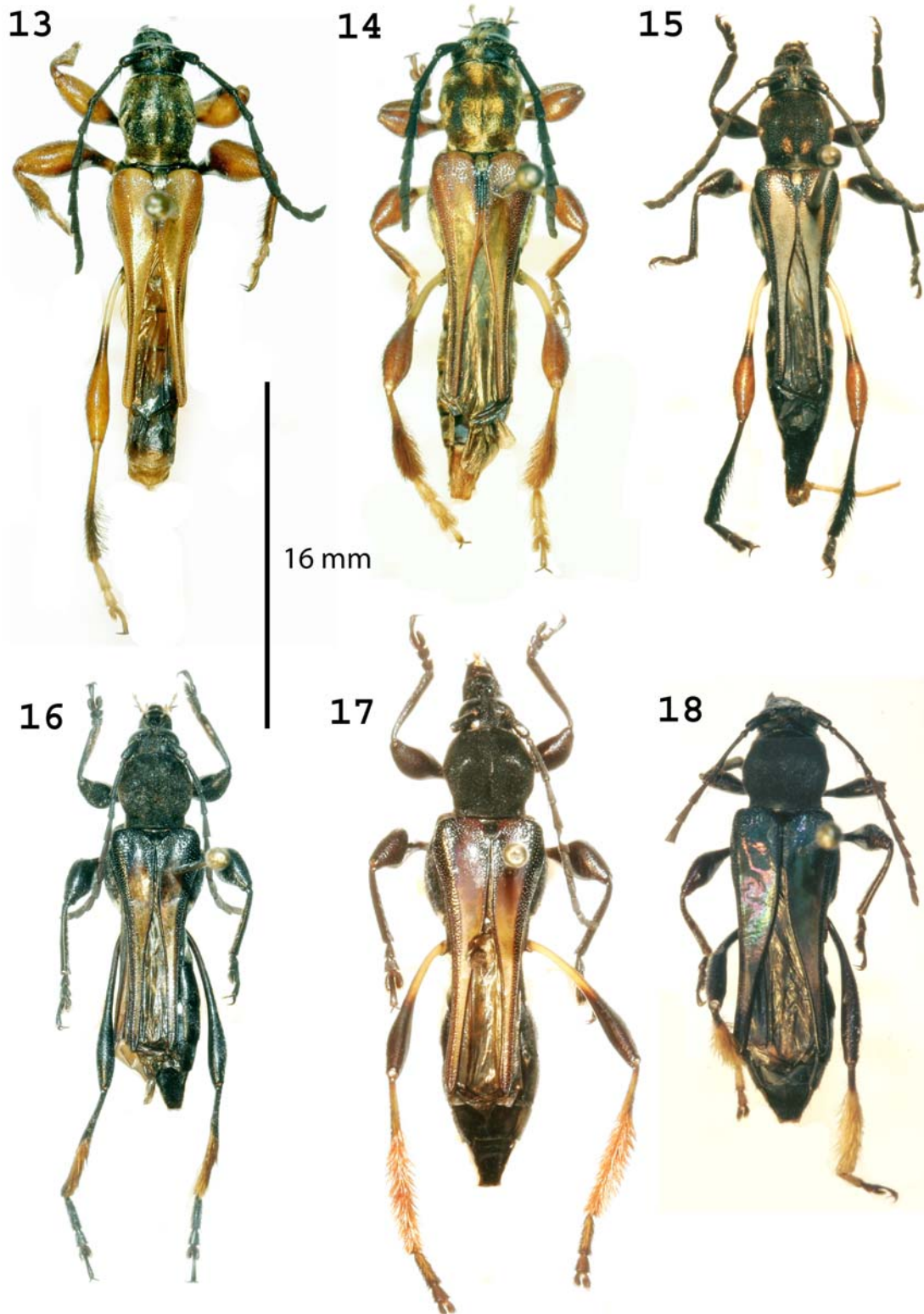
Croton (Euphorbiaceae), *Pterogyne nitens* (Caesalpiniaceae), *Trichilia elegans* (Meliaceae).



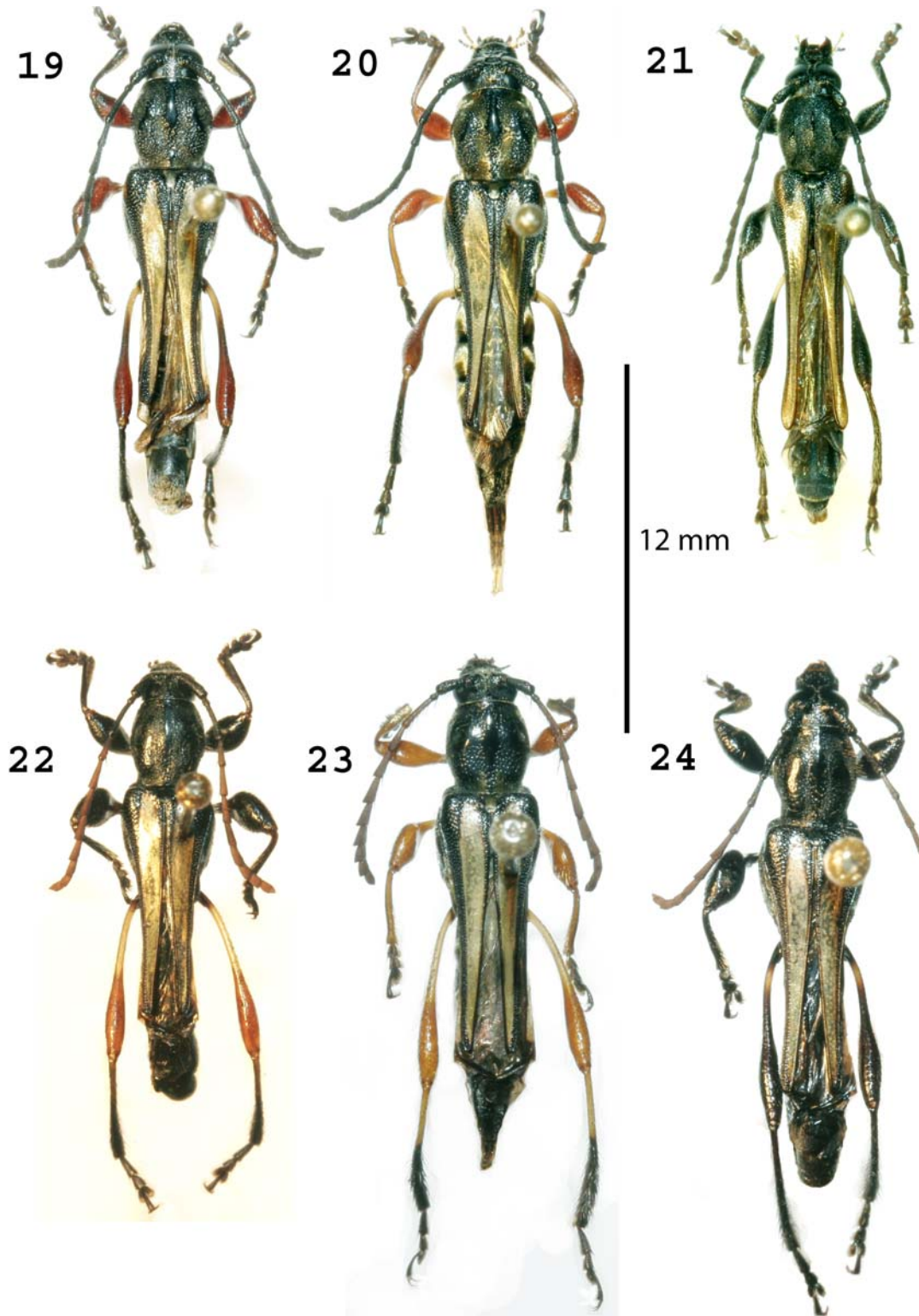
Figures 1–6. Species habitus in the genus *Forficuladeres* gen. nov. **Figures 1–3.** *Forficuladeres forficulifera* (Gounelle, 1913). 1) male. 2) female, 3) female ventral aspect. **Figures 4–6.** *Forficuladeres sexualis* (Linsley, 1934). 4) male. 5) male ventral. 6) female.



Figures 7–12. Species habitus in the genera *Acyphoderes* and *Bromiades*. **Figures 7–8.** *Acyphoderes aurulenta* (Kirby, 1818). **7)** male. **8)** female. **Figures 9–10.** *Acyphoderes abdominalis* (Olivier, 1795). **9)** male. **10)** female. **Figures 11–12.** *Bromiades brachyptera* (Chevrolat in Guérin-Meneville, 1838). **11)** male. **12)** female.



Figures 13–18. Species habitus in the genus *Acyphoderes*. **Figures 13–15.** *Acyphoderes hirtipes* (Klug, 1825). **13)** male. **14)** female and **15)** female *Acyphoderes rufofemorata* Fisher, 1930 (junior synonym). **16)** *Acyphoderes crinita* (Klug, 1825), female. **17)** *Acyphoderes rubrohirsutotibialis* Tippmann, 1953, female. **18)** *Acyphoderes auricapilla* Fisher, 1947, female paratype.



Figures 19–24. Species habitus in the genera *Acyphoderes* and *Acyderophes*. gen. nov. **Figures 19–20.** *Acyphoderes carinicollis* Bates, 1873. **19** male. **20** female. **21** *Acyphoderes amboroensis*, 2013, male holotype. **Figures 22–24.** *Acyderophes fulgida* (Chemsak and Linsley, 1979). **22** paratype. **23** female paratype, Costa Rica. **24** male Mexico (VC).

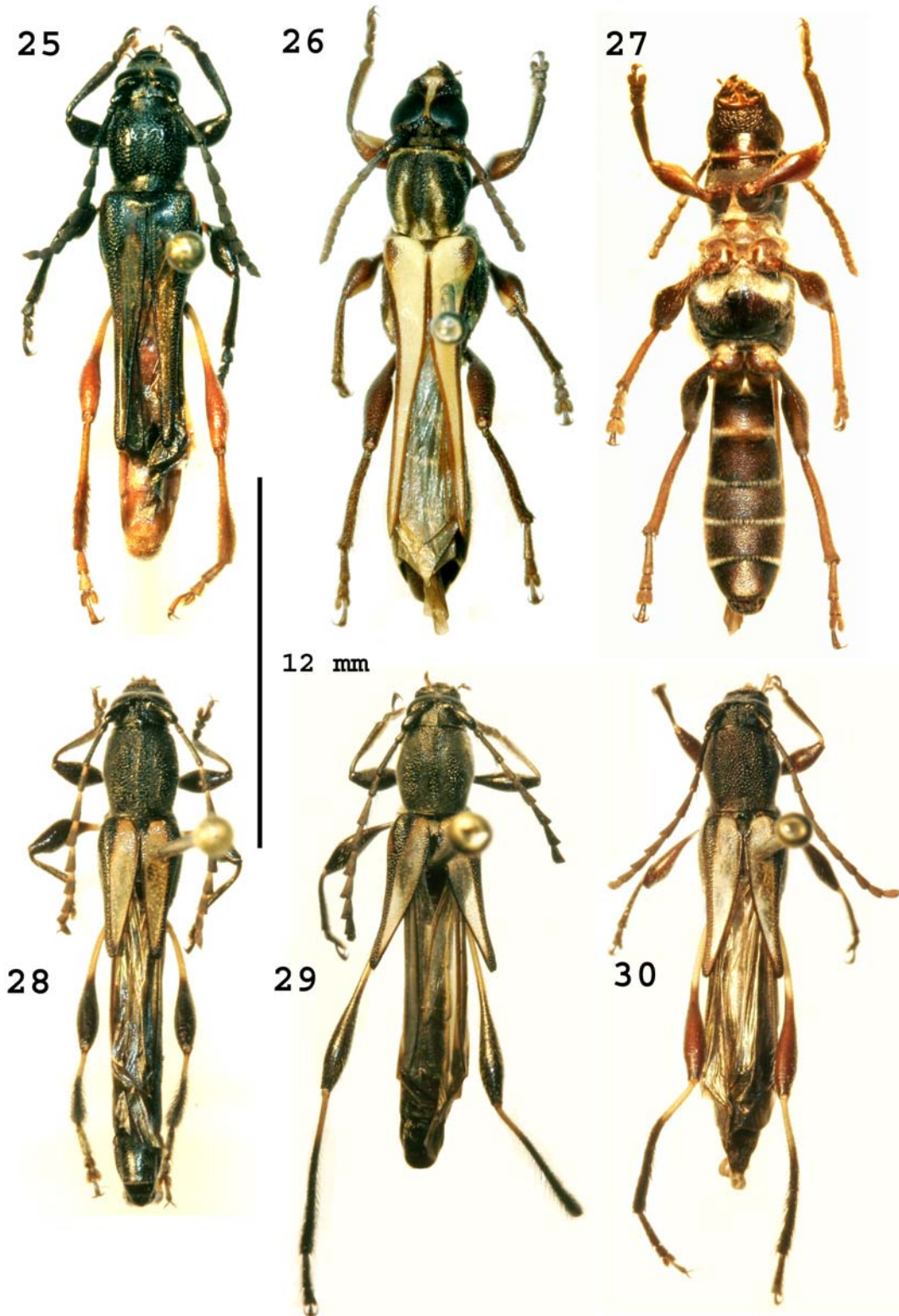
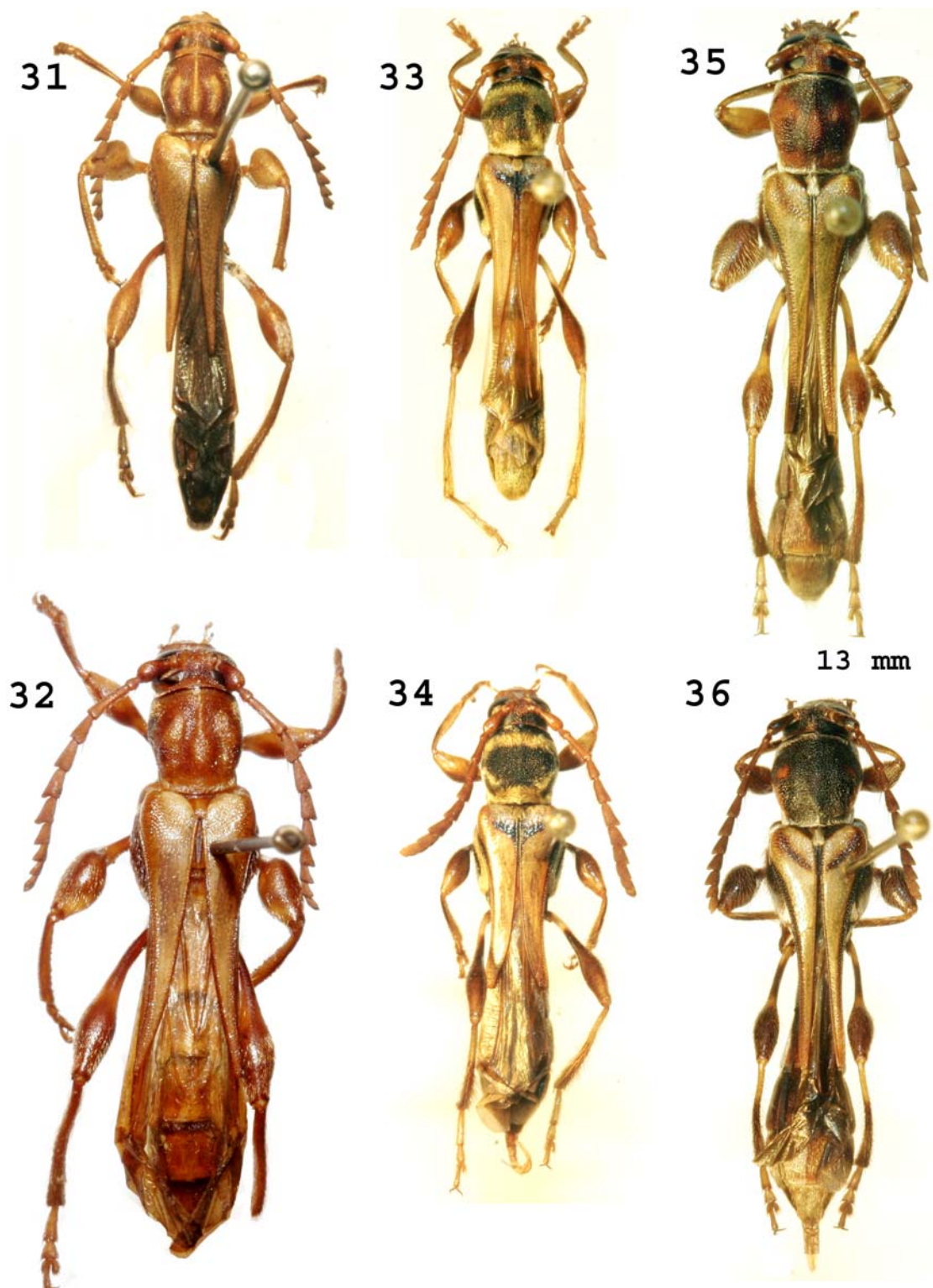
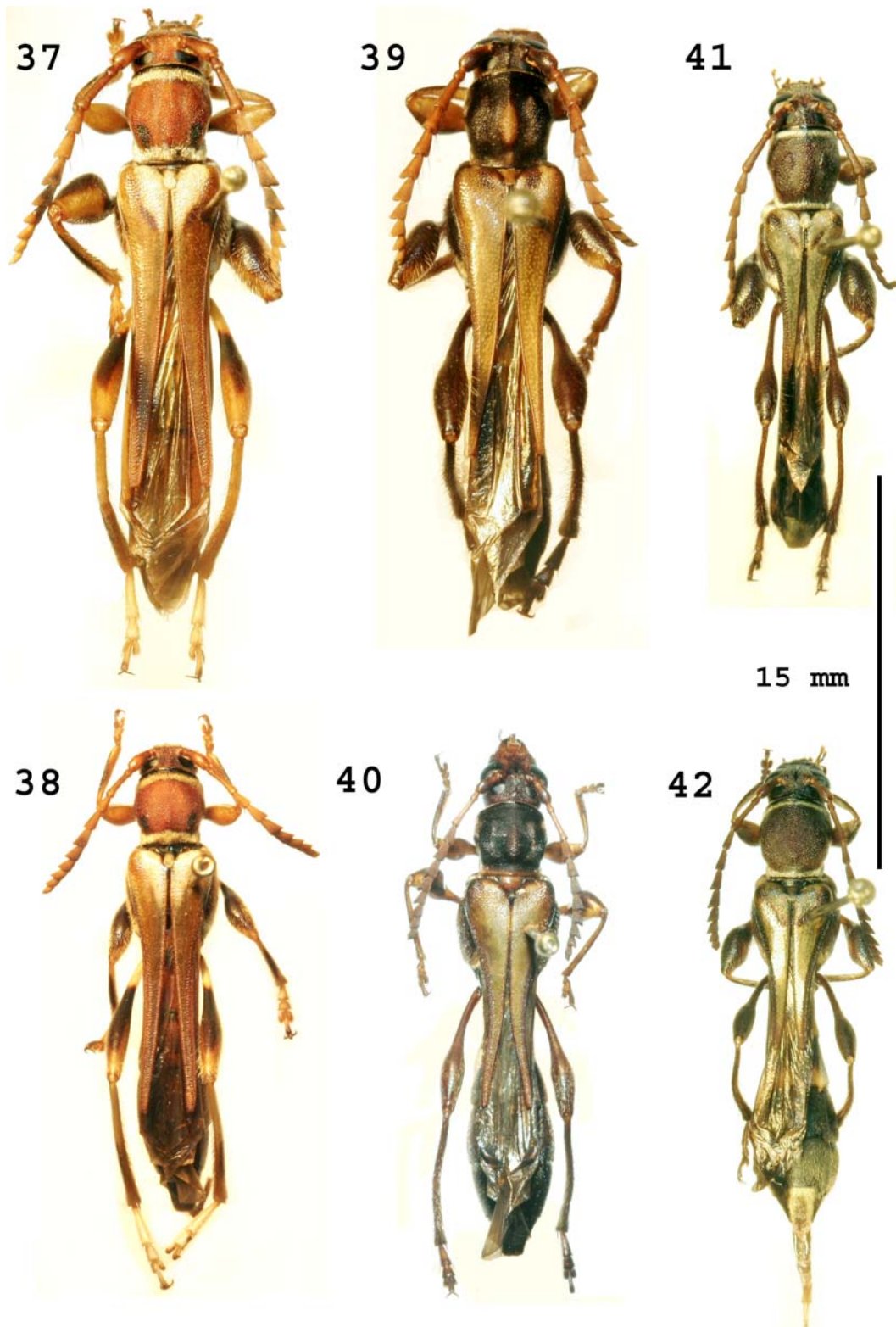


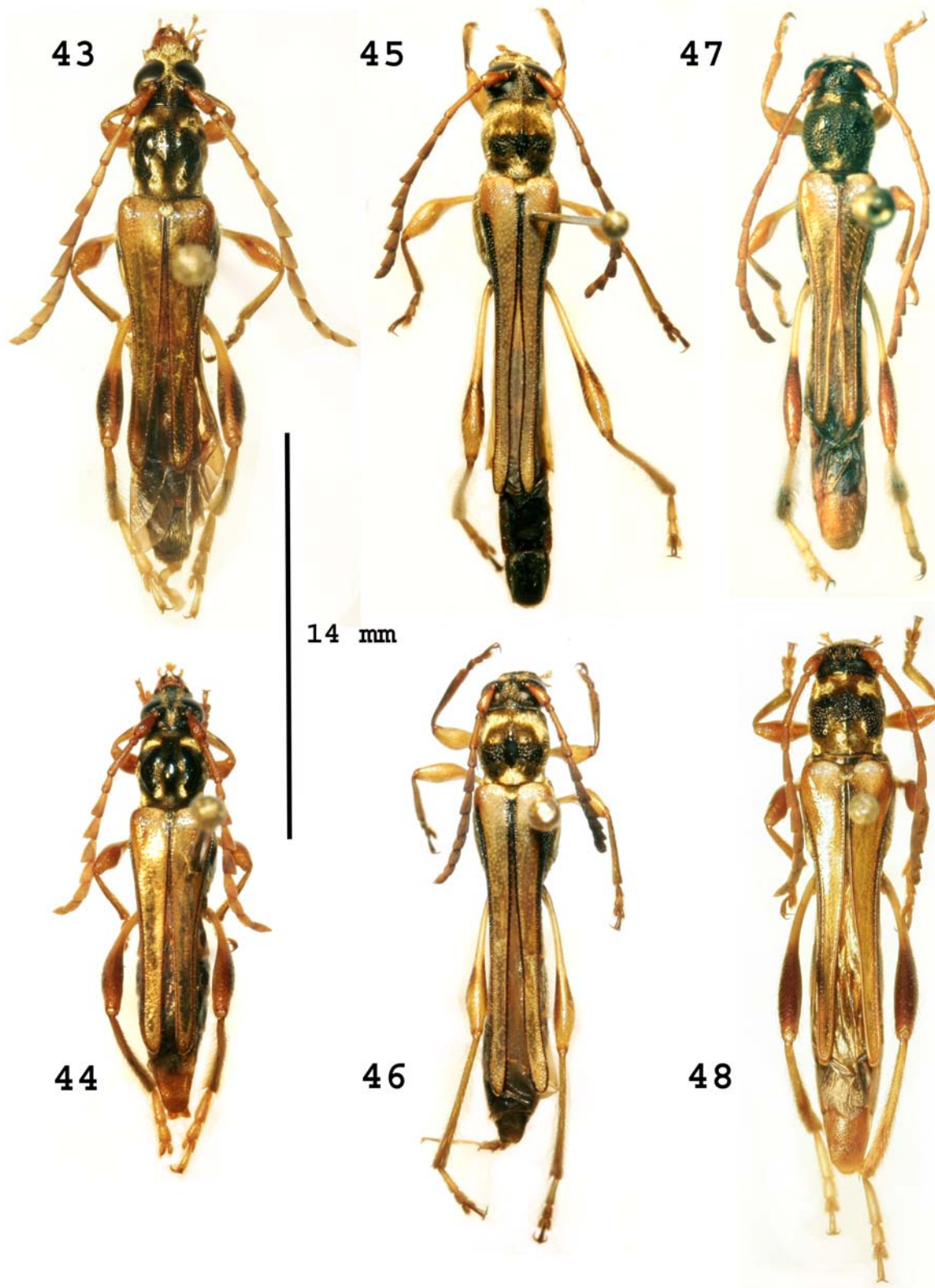
Figure 25–30. Species habitus in the genera *Anomaloderes*, gen. nov., *Acyphoderes*, gen. nov. and *Brachyphoderes*, gen. nov. **25)** *Anomaloderes itaiuba* (Martins and Galileo, 2004), male paratype. **Figures 26–27.** *Acutiphoderes odyneroides* (White, 1855). **26)** male. **27)** male ventral. **28)** *Brachyphoderes longicollis* (Chemsak and Noguera, 1993), male paratype. **Figures 29–30.** *Brachyphoderes dehiscens* (Chemsak, 1997). **29)** male paratype. **30)** female paratype.



Figures 31–36. Species habitus in the genus *Ameriphoderes*, gen. nov. **Figures 31–32.** *Ameriphoderes acutipennis* (Thomson, 1860). **31)** male. **32)** female. **Figures 33–34.** *Ameriphoderes ayalai* (Chemsak and Linsley, 1988). **33)** male. **34)** female. **Figures 35–36.** *Ameriphoderes parva* (Chemsak and Linsley, 1979). **35)** male. **36)** female.



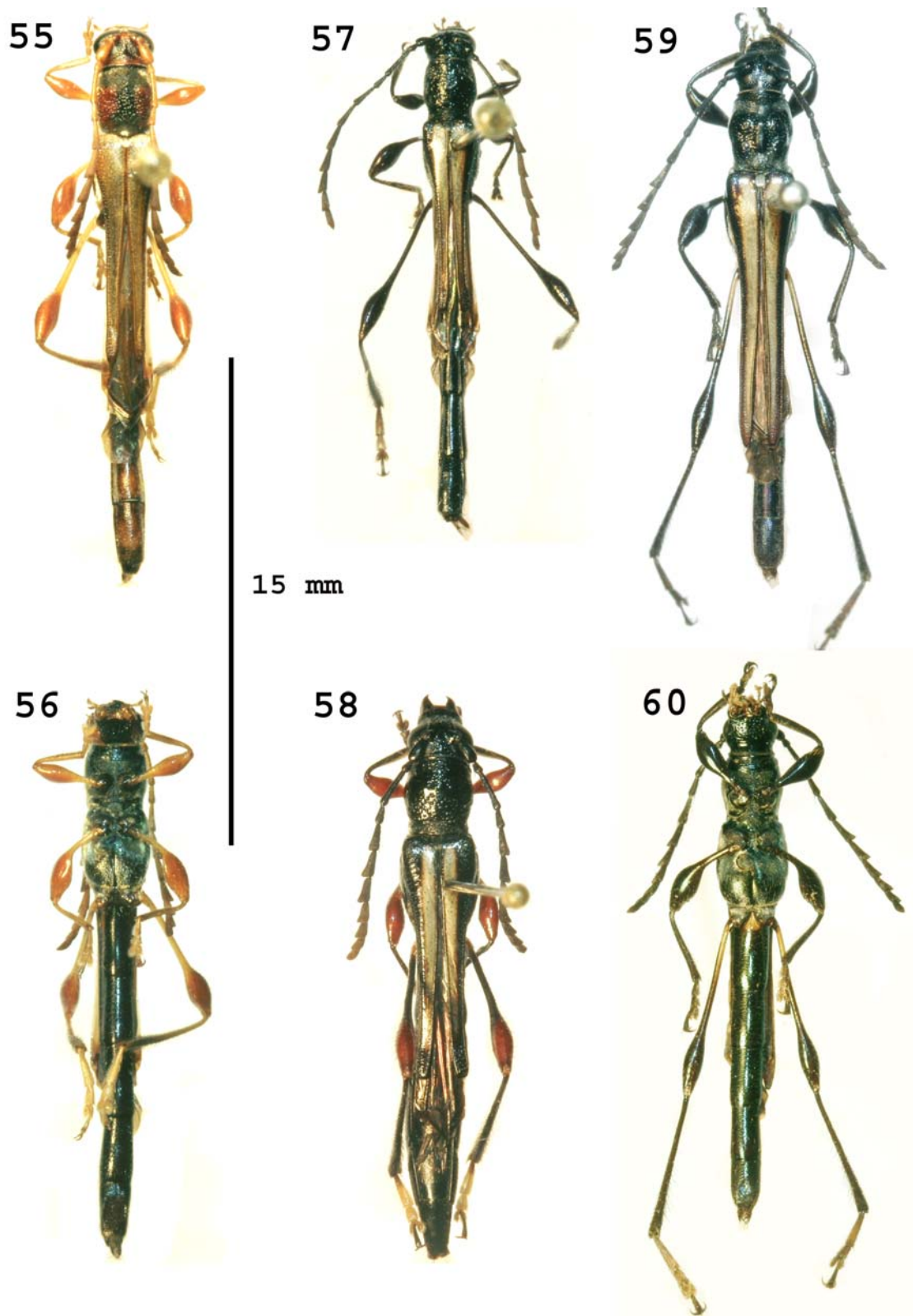
Figures 37–42. Species habitus in the genus *Ameriphoderes*, gen. nov. **Figures 37–38.** *Ameriphoderes suavis* (Bates, 1885). **37)** male. **38)** female. **Figures 39–40.** *Ameriphoderes velutina* (Bates, 1885). **39)** male. **40)** female. **Figures 41–42.** *Ameriphoderes yucateca* (Bates, 1892). **41)** male. **42)** female.



Figures 43–48. Species habitus in the genus *Ameriphoderes*, gen. nov. **Figures 43–44.** *Ameriphoderes amoena* (Chemsak and Linsley, 1979). **43** male. **44** female. **Figures 45–46.** *Ameriphoderes bayanicus* (Giesbert, 1991). **45** male. **46** female. **Figures 47–48.** *Ameriphoderes cribricollis* (Bates, 1892). **47** male. **48** female.



Figures 49–54. Species habitus in the genera *Ameriphoderes*, gen. nov. and *Amerispheca*, gen. nov. **Figures 49–50.** *Ameriphoderes magna* (Giesbert, 1991). **49**) male paratype. **50**) female paratype. **Figures 51–52.** *Ameriphoderes prolixa* (Chemsak and Linsley, 1979). **51**) male paratype. **52**) female paratype. **Figures 53–54.** *Amerispheca delicata* (Horn, 1894). **53**) male. **54**) male ventral.



Figures 55–60. Species habitus in the genus *Odontogracilis* .gen. nov. **Figures 55–56.** *Odontogracilis cracentis* (Chemsak and Noguera, 1997), **55**) male paratype. **56**) male paratype ventral. **Figures 57–58.** *Odontogracilis exilis* (Fisher, 1947), **57**) male. **58**) female. **Figures 59–60.** *Odontogracilis gracilis* (Klug, 1825), **59**) male. **60**) male ventral.

Figures 61–100 (next page). Abdomen type in the genus *Acyphoderes* and related genera. **61)** *Forficuladeres forficulifera* (Gounelle, 1913), male. **62)** *Forficuladeres sexualis* (Linsley, 1934), female. **63)** *Ameriphoderes parva* (Chemsak and Linsley, 1979), male. **64)** *Ameriphoderes yucateca* (Bates, 1892), male. **65)** *Ameriphoderes acutipennis* (Thomson, 1860), male. **66)** *Ameriphoderes ayalai* (Chemsak and Linsley, 1988), male. **67)** *Acutiphoderes odyneroides* (White, 1855), male. **Figures 68–69.** *Ameriphoderes velutina* (Bates, 1885), **68)** male. **69)** female. **70)** *Ameriphoderes suavis* (Bates, 1885), female. **71)** *Anomaloderes itaiuba* (Martins and Galileo, 2004), male. **Figures 72–73.** *Acyphoderes aurulenta* (Kirby, 1818), **72)** male, **73)** female. **Figures 74–75.** *Acyphoderes abdominalis* (Olivier, 1795), **74)** male. **75)** female. **76)** *Acyphoderes rufofemorata*, 1930, female (dark form). **Figures 77–78.** *Acyphoderes hirtipes* (Klug, 1825), **77)** male, **78)** female. **79)** *Acyphoderes crinita* (Klug, 1825). **80)** *Acyphoderes auricapilla* Fisher, 1947, female. **81)** *Acyphoderes rubrohirsutotibialis* Tippmann, 1953, female. **Figures 82–83.** *Acyphoderes carinicollis* Bates, 1873, **82)** male. **83)** female. **84)** *Acyphoderes amboroensis*, 2013, male. **Figures 85–86.** *Bromiades brachyptera* (Chevrolat, 1838), **85)** male. **86)** female. **Figures 87–88.** *Ameriphoderes amoena* (Chemsak and Linsley, 1979), **87)** male. **88)** female. **Figures 89–90.** *Acyderophes fulgida* (Chemsak and Linsley, 1979), **89)** male. **90)** female. **Figures 91–92.** *Ameriphoderes bayanicus* (Giesbert, 1991), **91)** male. **92)** female. **Figures 93–94.** *Ameriphoderes scribriacollis* (Bates, 1892), **93)** male. **94)** female. **Figures 95–96.** *Ameriphoderes prolixa* (Chemsak and Linsley, 1979), **95)** male. **96)** female. **Figures 97–98.** *Ameriphoderes magna* (Giesbert, 1991), **97)** male. **98)** female. **99)** *Brachyphoderes longicollis* (Chemsak and Noguera, 1993), male. **100)** *Brachyphoderes dehiscens* (Chemsak, 1997), female.

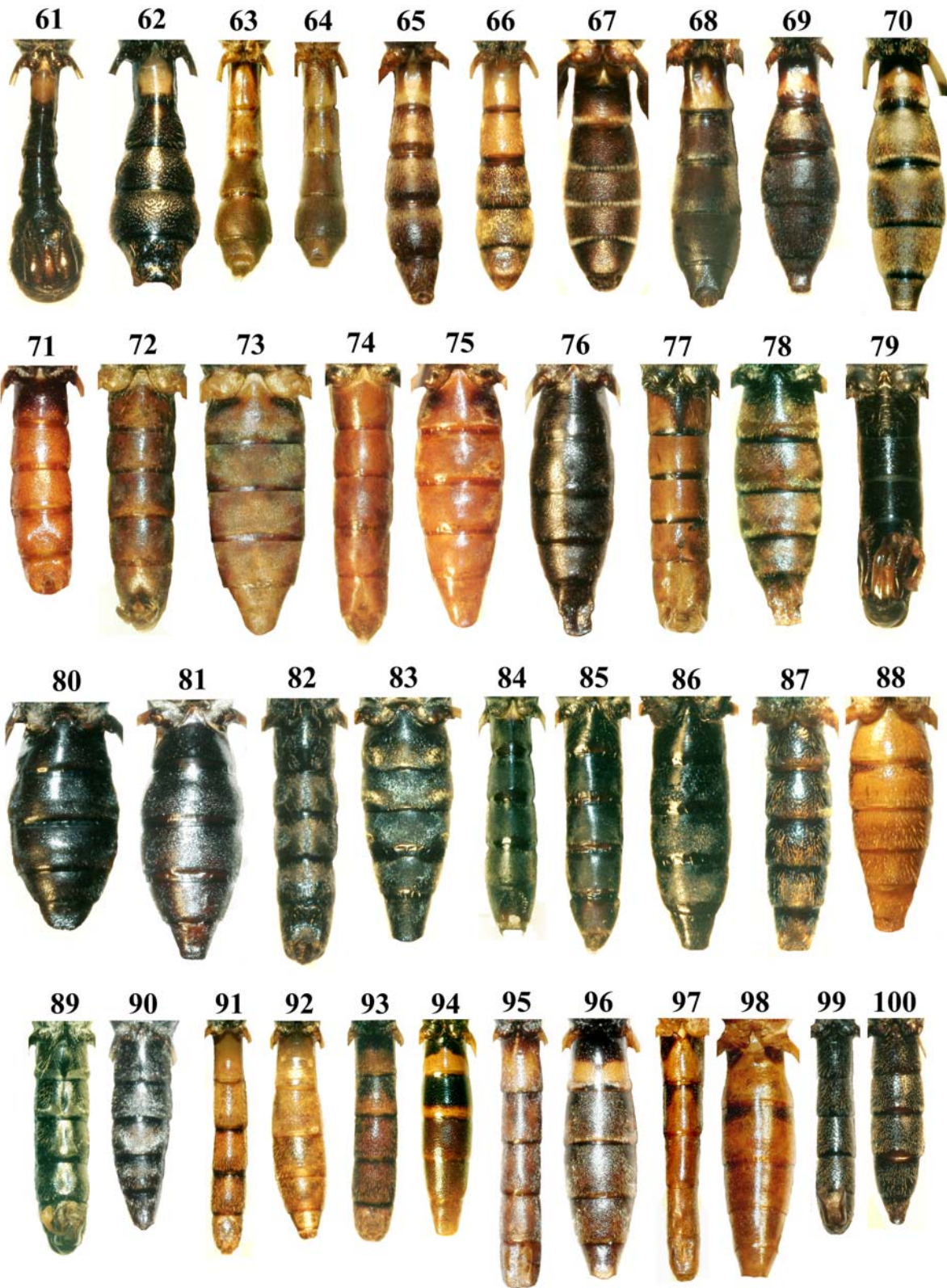


Figure 101-109 (next page). Type of hind leg in the genus *Acyphoderes* and related genera. **101)** *Acyphoderes aurulenta* (Kirby, 1818). **102)** *Ameriphoderes amoena* (Chemsak and Linsley, 1979). **103)** *Acyphoderes auricapilla* Fisher, 1947. **104)** *Acyphoderes crinita* (Klug, 1825). **105)** *Ameriphoderes yucateca* (Bates, 1892). **106)** *Acyphoderes rufofemorata* Fisher, 1930 = *A. hirtipes* (Klug, 1825). **107)** *Brachyphoderes dehiscens* (Chemsak, 1997). **108)** *Ameriphoderes bayanicus* (Giesbert, 1991). **109)** *Odontogracilis gracilis* (Klug, 1825).

101



102



103



104



105



106



107



108



109



Figures 110–139 (next page). Tegmen and median lobes of the aedeagus in the genus *Acyphoderes* and related genera. **110**) *Forficuladeres forficulifera* (Gounelle, 1913). **111**) *Forficuladeres sexualis* (Linsley, 1934). **112**) *Acyphoderes abdominalis* (Olivier, 1795). **113**) *Acyphoderes crinita* (Klug, 1825). **114**) *Acyphoderes hirtipes* (Klug, 1825). **115**) *Acyphoderes aurulenta* (Kirby, 1818). **116**) *Acyderophes fulgida* (Chemsak and Linsley, 1979), paratype Costa Rica. **117**) *Bromiades brachyptera* (Chevrolat, 1838). **118**) *Acyphoderes carinicornis* Bates, 1873. **119**) *Acyderophes ?fulgida* (Chemsak and Linsley, 1979), Mexico. **120**) *Brachyphoderes dehiscens* (Chemsak, 1997). **121**) *Brachyphoderes longicollis* (Chemsak and Noguera, 1993). **122**) *Ameriphoderes proluxa* (Chemsak and Linsley, 1979). **123**) *Ameriphoderes magna* (Giesbert, 1991). **124**) *Odontogracilis cracentis* (Chemsak and Noguera, 1997). **125**) *Odontogracilis gracilis* (Klug, 1825). **126**) *Odontogracilis exilis* (Fisher, 1947). **127**) *Ameriphoderes ayalai* (Chemsak and Linsley, 1988). **128**) *Ameriphoderes yucateca* (Bates, 1892). **129**) *Ameriphoderes suavis* (Bates, 1885). **130**) *Ameriphoderes velutina* (Bates, 1885). **131**) *Ameriphoderes acutipennis* (Thomson, 1860). **132**) *Ameriphoderes amoena* (Chemsak and Linsley, 1979). **133**) *Amerispheca delicata* (Horn, 1894). **134**) *Ameriphoderes cribricollis* (Bates, 1892), Nayarit. **135**) *Ameriphoderes ?cribricollis* (Bates, 1892), Veracruz. **136**) *Anomaloderes itaiuba* (Martins and Galileo, 2004). **137**) *Ameriphoderes parva* (Chemsak and Linsley, 1979). **138**) *Ameriphoderes bayanicus* (Giesbert, 1991). **139**) *Acutiphoderes odyneroides* (White, 1855).

